Manitoba

Annual Report 1987 - 88

Agriculture

89-05933/

Minister of
Agriculture

Room 165
Legislative Building
Winnipeg, Manitoba, CANADA
R3C 0V8

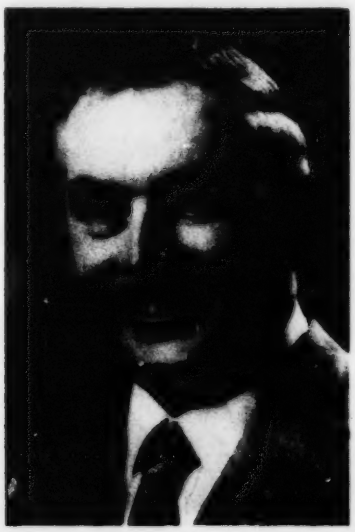
To His Honour,
George Johnson,
Lieutenant Governor for
the Province of Manitoba

Your Honour:

I have the honour to submit herewith the Report of the Department of the Agriculture for the period April 1, 1987 to March 31, 1988.

Yours truly,

Glen M. Findlay,
Minister



Manitoba

Deputy Minister of Agriculture

Room 159
Legislative Building
Winnipeg, Manitoba, CANADA
R3C 0V8

(204) 945-3734

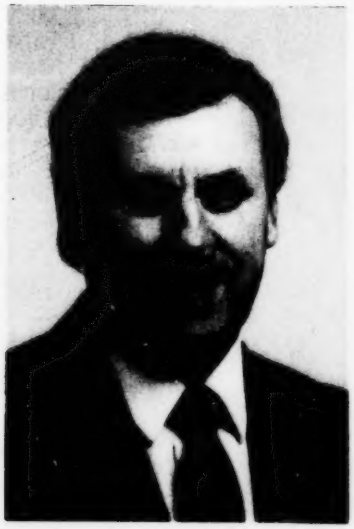
Honourable Glen M. Findlay
Minister of Agriculture
Province of Manitoba

Sir:

It is my pleasure to present the annual report of the Manitoba Department of Agriculture for the twelve month period ending March 31, 1988.

Respectfully submitted,

G. J. Lacomy
Acting Deputy Minister



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Manitoba Agriculture

Executive and Directors

April 1, 1987 to March 31, 1988

Executive

Honourable Leonard E. Harapiak, Minister

G. J. Lacomy, Acting Deputy Minister

T. L. Pringle, Assistant Deputy Minister
Agricultural Development and
Marketing Division

R. L. Baseraba, Acting Assistant Deputy Minister
Management and Operations Division

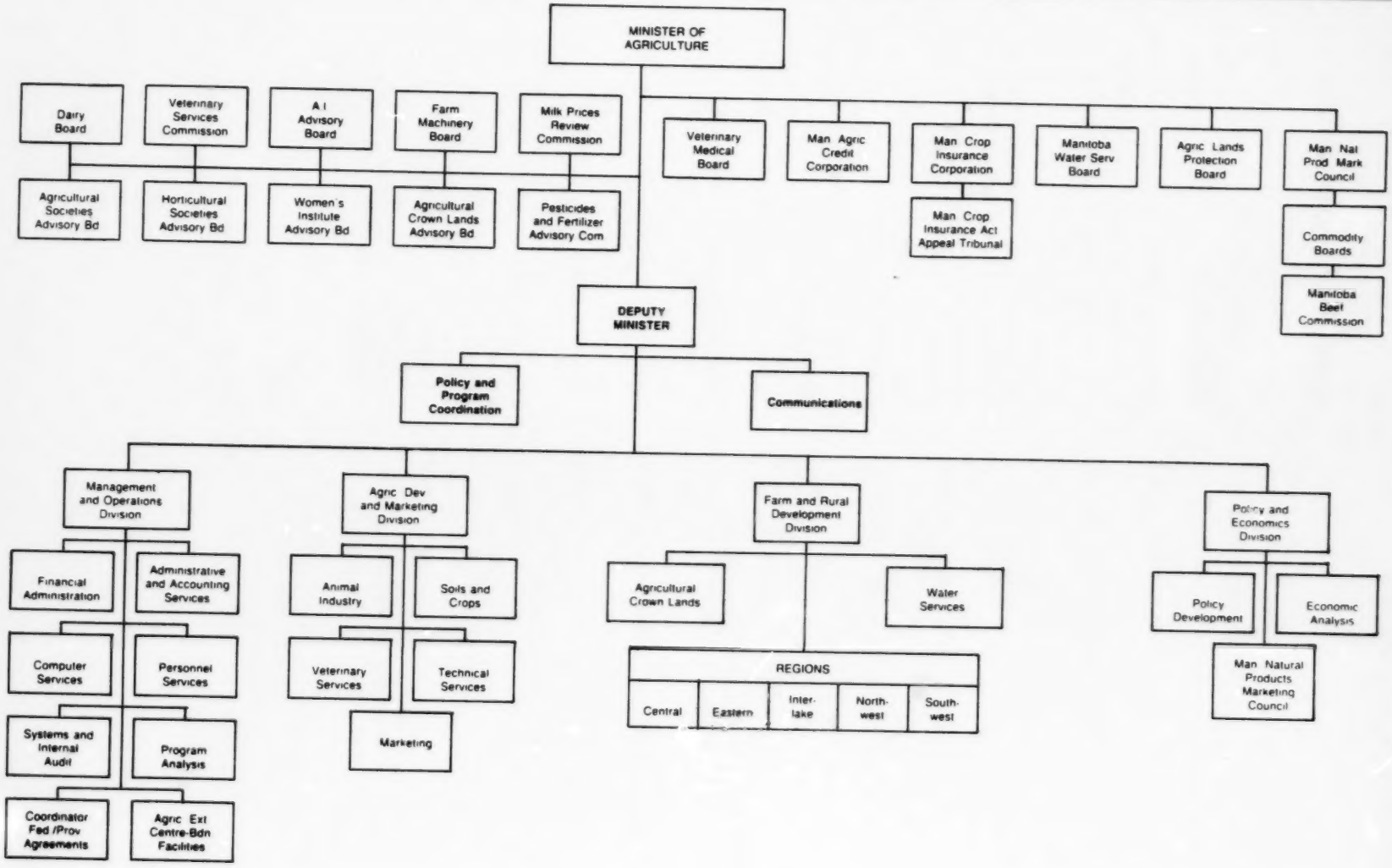
C. Lee, Assistant Deputy Minister
Policy and Economics Division

B. Dryburgh, Policy and Program
Coordinator

Directors

Administrative and Accounting Services —
D. H. Burch (Act.)
Agricultural Crown Lands — J. L. Neabel
Animal Industry Branch — F. P. Baker
Communications — V. E. McNair
Economics — H. Gregory
Marketing — A. E. Gascoigne
Personnel Services — D. H. Burch
Soils and Crops — G. D. Webster
Technical Services and Training — R. M. Deveson
Veterinary Services — J. A. McPhedran
Manitoba Natural Products Marketing Council —
G. H. McKenzie
Manitoba Water Services Board — W. E. Griffin
Central — B. F. Manning
Eastern — D. I. Donaghy
Interlake — A. T. Dickson
Northwest — R. Chychota
Southwest — W. Digby

Organization Chart — Manitoba Agriculture



General Administration

Manitoba Natural Products Marketing Council

The objective of the Manitoba Natural Products Marketing Council is to ensure the effective control, regulation and promotion of agricultural products designated within the marketing plans of seven producer-elected boards and three appointed marketing commissions. The Manitoba Council supervises the activities of these marketing agencies and serves as an appeal body for any person affected by the decisions of marketing boards or commissions.

In February, 1988, the Council convened a seminar of the three poultry boards and hatching egg commission, to share information and opinions on major issues affecting the supply-managed commodities.

Membership in the Manitoba Council was changed with one new member being appointed effective May 20th, 1987. The Manitoba Council convened fifteen regular meetings in 1987/88 and its involvement with each of the producer boards and marketing commissions is highlighted below.

The Manitoba Beef Commission — The Manitoba Council participated in discussions concerning the powers of the Commission to obtain information on beef marketings and a revised standard producer contract. The Council heard nine appeals against the decisions of the Commission, with eight appeals being dismissed and one granted.

The Manitoba Broiler Hatching Egg Commission — The Manitoba Council co-operated with the full establishment of the Canadian Broiler Hatching Egg Marketing Agency. The Council approved a regulation amendment to allow for remittance of levies on a monthly basis instead of weekly.

The Manitoba Chicken Broiler Producers' Marketing Board - The Manitoba Council met with Board representatives to discuss a number of administrative issues. Council continued to raise concerns about the national agency's calculations of cost of production, and the impact of these costs on the province's share of national quota. Council approved minor amendments to the Board's Penalty Levies Regulation and the Chicken Broiler Administration Fee Regulation.

The Manitoba Egg Producers' Marketing Board — The Manitoba Council met with delegations of the Board on several occasions to review a number of marketing and administrative issues. Council also met with representatives of the National Farm Products Marketing Council in September, 1987 to discuss the federal minister's "Guidelines on Disposal of Surplus Eggs". There were two appeals against this Board for the year under review, both of which were dismissed.

The Manitoba Hog Producers' Marketing Board — In response to producer concerns, the Manitoba Council ruled that the Board could not make deductions on behalf of general farm organizations, except as a service to those producers who have requested in writing that such deductions be made from their marketing proceeds. In June, 1987, Council approved a special promotion levy of .2 per cent of sales, in addition to the existing levy of 1 per cent of sales. During the year Council heard and dismissed one appeal against this Board, concerning the authority of the Board to extend a line of credit to a hog processing facility.

The Manitoba Honey Marketing Board — No discussions or major issues involving this Board during the year.

The Manitoba Milk Producers' Marketing Board — The Manitoba council approved various regulatory amendments relating to milk quality appeal hearings, quota maintenance policy, voting procedures and levy increases. Representatives of Council and the Board met in September, 1987 and again in March, 1988 to conduct the review of the quota redistribution system. There were three appeals heard against the Board, all of which were dismissed.

The Manitoba Turkey Producers' Marketing Board — The Manitoba council approved an increase in the Board's levy to offset decreased income resulting from repeal of the Board's pooling order. The Council approved various quota order amendments, including provision for conversion of quotas between breeder and commercial categories. In November, 1987, Council appealed a reduction in Manitoba's 1988 quota as determined by the Canadian Turkey Marketing Agency. The appeal was dismissed, but the Agency adjusted its calculations to ensure that Manitoba did not receive a quota reduction. Council granted one appeal relating to a producer's conversion from breeder to commercial quota.

The Manitoba Vegetable Producers' Marketing Board — Council staff assisted the Board in preparing a brief on Manitoba's position concerning the establishment of a National Potato Marketing Agency. The brief was presented by the Board at a National Council hearing in Winnipeg in June, 1987. In September, 1987, Council approved a Penalty Levy Regulation to deal with the marketing of non-quota potatoes.

The Manitoba Fluid Milk Commission — Effective February 1, 1988 the Fluid Milk Commission was disbanded and its existing authorities transferred to the Milk Prices Review Commission.

Management Services

Administrative and Accounting Services

The Branch concentrates its service in providing professional management, accounting, financial and administrative support to all department programs and executive management. On-going services include financial analysis, general management consultation, system design, payment documentation, expenditure recording, revenue collection and analysis, and provision of management information for decision making in program development and administration. The coordination of summer student recruitment, records management, office space and equipment administration and telecommunications services also continue as service activities.

During the year, 23,397 payment documents were processed totaling $68,749,935. In addition 1,754 requisitions were authorized for office supplies and equipment services.

Purchasing transactions resulted in 812 orders being processed and an additional 878 direct purchase orders were issued.

Revenue transactions for $9,726,479 collected as fees, shared-cost receipts, etc., were also processed.

During the year approximately 55 contracts were prepared and processed, basically for Agri-Food programs throughout the Province. In addition, 67 summer student positions, including both S.T.E.P. and budget positions, were expedited.

As its primary goal, the Branch continued its efforts in providing services coinciding with program area goals and objectives, to ensure efficient and effective departmental operations. General management advice and counsel to all levels of the organization continued to ensure compliance with audit and other central agency guidelines.

Internal Audit and Systems

The branch is responsible for planning and reviewing existing and proposed financial and procedural program systems of the Department and its related agencies. It also contributed to policy formulation by providing advice to senior management to ensure economic, efficient and effective program delivery.

Activities for the year included:

- an addition to staff of an assistant internal auditor to help carry out the above objective
- audits of several programs and making recommendations which improved operations
- completion of the Phase I review of M.A.C.C. and resultant recommendations for improving loan turnaround time of the Corporation. This work group is presently involved in Phase II review to improve the efficiency and effectiveness of the M.A.C.C. operation
- analysis of the Keystone Centre budget and capital and operating results for the year
- involvement with various committees and boards to ensure adherence to central and departmental policies and provide advice on proposed legislative changes and new programs. Some examples are: Beef Strategy Committee, Manitoba Beef Commission Board, Meat Inspection Program, Rural Development Institute and Ag. Services Corporation
- finalizing a new departmental revenue policy
- functioning as a member of the Department Audit Committee whose role is to deal with all Provincial Audit reports on organizations under the responsibility of the Minister of Agriculture

Financial Administration

Financial Administration provided support to all divisions of the Department. Activity centered on four major areas: annual estimates, sessional notes, cash flow and supplementary estimates.

The Department's annual estimates for the 1988/89 fiscal year were compiled through close cooperation with each director and presented to the Minister and Executive for review before Cabinet presentation.

The financial component of the sessional notes was prepared by this section, along with financial details at the appropriation level.

Continued emphasis was placed on estimating the monthly cash flow of expenditures and revenue at the program level for more effective reporting. Revised and supplementary estimates for the 1987/88 fiscal year were compiled for unforseen and emergency expenditures. Financial reports, expenditure codes, unique codes and other related matters were developed.

Department of Agriculture

Expenditure Summary by Appropriations

Year Ended March 31, 1988

Appr'n Number	Service	Actuals $	Estimates $	Variance $	Explanation No
03-1	ADMINISTRATION AND FINANCE				
03-1a	Minister's Salary	20,500	20,600	(100)	
	Executive Support				
03-1b-1	Salaries	348,800	253,400	95,400	
03-1b-2	Others	118,800	116,000	2,800	
03-1b-3	Policy Studies	171,000	117,900	53,100	
	Communications Branch				
03-1c-1	Salaries	418,900	452,900	(34,000)	
03-1c-2	Others	290,200	305,200	(15,000)	
	Finance and Administration Services				
03-1d-1	Salaries	616,600	715,000	(98,400)	
03-1d-2	Others	64,100	69,900	(5,800)	
	Computer Services				
03-1e-1	Salaries	238,600	231,300	7,300	
03-1e-2	Others	70,200	79,300	(9,100)	
	Personnel Services				
03-1f-1	Salaries	165,100	176,500	(11,400)	
03-1f-2	Others	22,900	19,800	3,100	
	Program Analysis				
03-1g-1	Salaries	175,400	173,200	2,200	
03-1g-2	Others	11,100	14,000	(2,900)	
	Total vote 1	2,732,200	2,745,000	(12,800)	
03-2	MANITOBA CROP INSURANCE CORPORATION				
03-2a	Administration	4,318,200	4,364,300	(46,100)	
03-2b	Canada-Manitoba Waterfowl Damage Compensation Agreement	149,500	300,000	(150,500)	1
	Total vote 2	4,467,700	4,664,300	(196,600)	
03-3	MANITOBA AGRICULTURAL CREDIT CORPORATION	4,424,100	16,031,900	(11,607,800)	2
03-4	AGRICULTURAL DEVELOPMENT AND MARKETING DIVISION				
	Administration				
03-4a-1	Salaries	83,500	85,000	(1,500)	
03-4a-2	Others	6,100	6,300	(200)	
	Animal Industry Branch				
03-4b-1	Salaries	1,492,700	1,619,800	(127,100)	
03-4b-2	Others	634,900	609,400	25,500	
	Veterinary Services Branch				
03-4c-1	Salaries	1,411,700	1,371,800	39,900	
03-4c-2	Others	1,103,200	908,100	195,100	

Department of Agriculture

Expenditure Summary by Appropriations

Year Ended March 31, 1988

Appr'n Number	Service	Actuals $	Estimates $	Variance $	Explanation No
	Soils and Crops Branch				
03-4d-1	Salaries	1,948,800	1,933,300	15,500	
03-4d-2	Others	982,600	1,051,800	(69,200)	
	Northern Development Agreement — Provincial				
03-4d-3a	Salaries	47,800	57,200	(9,400)	
03-4d-3b	Others	34,200	43,000	(8,800)	
	Technical Services and Training Branch				
03-4e-1	Salaries	1,613,800	1,609,900	3,900	
03-4e-2	Others	1,082,300	1,229,300	(147,000)	
03-4e-3	Agricultural Societies	536,200	531,200	5,000	
	Northern Development Agreement — Canada/Manitoba				
03-4e-4a	Salaries	81,400	108,100	(26,700)	
03-4e-4b	Others	39,500	44,100	(4,600)	
03-4e-4c	Recoverable from Northern Affairs	(120,900)	(152,200)	31,300	
	Marketing Branch				
03-4f-1	Salaries	245,800	318,500	(72,700)	
03-4f-2	Others	168,600	169,900	(1,300)	
	Total vote 4	11,392,200	11,544,500	(152,300)	
03-5	FARM AND RURAL DEVELOPMENT DIVISION				
	Administration				
03-5a-1	Salaries	30,200	80,600	(50,400)	
03-5a-2	Others	3,700	6,400	(2,700)	
	Northwest Region				
03-5b-1	Salaries	1,200,500	1,203,500	(3,000)	
03-5b-2	Others	323,200	352,400	(29,200)	
	Southwest Region				
03-5c-1	Salaries	1,569,100	1,580,100	(11,000)	
03-5c-2	Others	318,000	332,500	(14,500)	
	Central Region				
03-5d-1	Salaries	1,586,800	1,677,100	(90,300)	
03-5d-2	Others	303,000	333,400	(30,400)	
	Eastern Region				
03-5e-1	Salaries	1,013,900	1,014,400	(500)	
03-5e-2	Others	207,500	246,800	(39,300)	
	Interlake Region				
03-5f-1	Salaries	1,197,700	1,211,100	(13,400)	
03-5f-2	Others	282,800	292,800	(10,000)	
	Manitoba Water Services Board				
03-5g-1	Salaries	1,392,000	1,408,100	(16,100)	
03-5g-2	Others	366,400	458,500	(92,100)	

Department of Agriculture

Expenditure Summary by Appropriations

Year Ended March 31, 1988

Appr'n Number	Service	Actuals $	Estimates $	Variance $	Explanation No
	Agricultural Crown Lands Branch				
03-5h-1	Salaries	1,239,200	1,337,600	(98,400)	
03-5h-2	Others	721,800	816,900	(95,100)	
	Total vote 5	11,755,800	12,352,200	(596,400)	
03-6	POLICY AND ECONOMICS DIVISION				
	Administration				
03-6a-1	Salaries	86,600	85,000	1,600	
03-6a-2	Others	16,200	15,700	500	
	Economics branch				
03-6b-1	Salaries	539,000	609,400	(70,400)	
03-6b-2	Others	95,900	105,500	(9,600)	
	Manitoba Natural Products Marketing Council				
03-6c-1	Salaries	132,900	157,400	(24,500)	
03-6c-2	Others	37,300	39,700	(2,400)	
03-6d	Milk Prices Review Commission	14,300	31,200	(16,900)	
	Manitoba Farm Lands Ownership Board				
03-6e-1	Salaries	130,700	137,000	(6,300)	
03-6e-2	Others	26,000	33,200	(7,200)	
03-6f	Agricultural Research Grant (University of Manitoba)	875,500	875,500	0	
	Family Farm Protection Act				
03-6g-1	Salaries	92,200	154,000	(61,800)	
03-6g-2	Others	249,500	256,000	(6,500)	
	Total vote 6	2,296,100	2,499,600	(203,500)	
03-7	FEDERAL/PROVINCIAL AGREEMENTS				
03-7b	Agri-Food Agreement	1,373,100	1,638,700	(265,600)	3
03-8	INCOME INSURANCE FUND				
03-8a	Beef Stabilization	5,474,200	6,144,900	(670,700)	4
03-8b	Hog Stabilization	4,657,800	5,091,000	(433,200)	5
03-8c	Sugar Beet Assistance	240,300		240,300	6
	Total vote 8	10,372,300	11,235,900	(863,600)	
03-9	DRUGS AND SEMEN PURCHASES	6,848,500	6,130,400	718,100	7
03-10	SPECIAL FARM SCHOOL TAX ASSISTANCE PROGRAM	8,992,700	12,000,000	(3,007,300)	8
03-10	EXPENDITURES RELATED TO CAPITAL ASSETS				
03-10a	Capital Grants	4,095,200	4,150,000	(54,800)	
03	Total Department	68,749,900	84,992,500	(16,242,600)	

Explanatory Notes For

Expenditure by Appropriation Summary

Year Ended March 31, 1988

1. An early harvest in 1987 resulted in less damage to crops than was expected.
2. (a) Special Farm Assistance - Unspent - $6,500.0

   Under the program, farmers may be eligible for assistance following the successful mediation of their debts with their creditors. Assistance generally applies to future obligations for payment.

   (b) Loan Guarantees - Unspent - $1,821.0

   Draw of funds from the Department by M.A.C.C. is based on anticipated guarantees being called. The amount drawn by M.A.C.C. was adjusted in 1987/88 because of an overdraw in 1986/87.

   (c) Bad Debt Write-Offs - Unspent - $2,500.0

   Write-offs were funded by the Department of Finance in 1987/88 due to a change in accounting procedures.

   (d) Young Farmer Rebates - Unspent - $549.5

   Continuing poor economic conditions resulted in a declining number of farmers who were able to keep their accounts current and thus qualify for the rebates.
3. Certain projects did not reach completion due to unforeseen circumstances. In addition, planning and local organization delays were due primarily to the present economic climate.
4. Government premium payout was lower than expected due to reduced cattle volume. In addition, interest charges on outstanding loans were lower than anticipated due to higher loan paybacks as a result of higher market prices and lower support levels.
5. Producers participation of 86 per cent as compared to the prediction level of 90 per cent, coupled with a 4.2 per cent short-fall in sales, resulted in below expectation of provincial premium requirement.
6. Manitoba entered the Tripartite Plan part way through the 1987/88 fiscal year. Hence, the estimates of expenditures contained no reference to Sugar Beet Stabilization.
7. The fiscal year 1987/88 was the first year of the program, thus making it difficult to predict the number of applications for benefits under the program.

Personnel Services

Personnel Services provided advisory assistance to management and staff on the recruitment and selection of employees, wage and salary administration, employee relations, staff development and training, Affirmative Action, and Workplace, Safety and Health.

The new training position has enhanced the Department's successful "Management Update" training and development programs. This year, they again met needs identified in team building, time management and stress management.

In addition, wage and salary administration, training and development and employee relations services were provided to the Manitoba Agricultural Credit Corporation, Manitoba Crop Insurance Corporation and the Manitoba Beef Commission.

Computer Services

The Computer Services Branch provided for the maintenance, enhancements and development of computer systems within the Department.

Data processing activity increased in all areas as staff became more familiar with micro computer technology. Development included engineering applications, financial planning and budgets. Farmers and agri-business have purchased, for their own use, some of these programs that were developed for use by our regional staff.

Major enhancements were made to ongoing systems running on the Manitoba Data Services (MDS) main frame computer. The Crown Lands Branch, Manitoba Agriculture Credit Corporation, the Manitoba Beef Commission and the Dairy Herd Improvement Program have systems at MDS.

Development continued on the mini computer systems at Manitoba Crop Insurance and the Veterinary Services Branch.

The branch continued to provide service to departmental staff for statistical analysis, graphics, procurement/installation/maintenance of hardware and software, the administration of electronic data processing funds and the management of word processing services.

Program Analysis

The primary function of Program Analysis is to provide the department with management information and analysis support. These wide ranging services may be grouped into four areas: (1) assisting individual staff, branches, regions or divisions in evaluating the effectiveness of their program; (2) cooperating with and supporting the financial administrator, directors and managers in the development of budget estimates and revenue expectations for Ministerial and Cabinet review, as well as Sessional Notes for House debate; (3) providing management with specific activity reviews and recommendations, as well as developing internal operating processes to achieve management goals; (4) providing assistance to the Federal-Provincial Coordinator in the development, implementation and evaluation of programs under the Agri-Food Sub-Agreement of E.R.D.A.

During the year the branch completed an update of a summary of Departmental Policies and Programs.

Close liaison was maintained with directors and managers in the development of program information required to support the departmental budget estimates and to provide assistance to directors in budget control.

Documents were prepared for Cabinet review which provided a departmental program and situation overview, budgetary program objectives and results. In addition, a further document was developed for M.L.A.'s, known as "Supplementary Information for Legislative Review". This document was made available in time for the 1987/88 Agricultural estimates review.

The branch, with the assistance of the Internal Auditor and the Director of the Computer Section, continued a review of the internal administrative and operation systems in M.A.C.C., in cooperation with M.A.C.C. staff.

Assistance was provided in the development of evaluation procedures for the various departmental program and commodity strategies.

The branch, in cooperation with Administrative and Accounting Services, developed a Manitoba Agriculture Freedom of Information Procedural Guide. Personnel of the branch coordinated and presented Freedom of Information orientation and training sessions to various levels of departmental staff.

The branch coordinated the process for updating and translating Departmental Acts and Regulations into the French language and, in addition, completed a review of the Feed Laboratory Operation and Nutritional Services.

Agricultural Research

University of Manitoba

During the fiscal year, Manitoba Agriculture provided a grant of $875,500 to the University of Manitoba to support the University's agricultural research program. The grant was used to provide operational support for research projects in all major disciplines. These included agricultural engineering, animal science, entomology, food science, plant science and soil science. Funds were also used for the development

and maintenance of the university's central research station at Glenlea.

Manitoba Agricultural Services Coordinating Committee (MASCC)

Staff from the Department participated in the activities of the Manitoba Agricultural Services Coordinating Committee (MASCC). MASCC is an advisory body which recommends methods to improve the quality of agricultural services to farmers and others in the agricultural industry. The Committee is chaired by the Deputy Minister of Manitoba Agriculture. It includes representatives from the University of Manitoba. Input into the forming of recommendations is also provided by farmers and representatives from agri-business.

In 1987/88, MASCC approved recommendations on both research and non-research development. Recommendations of national significance were forwarded to the Canadian Agricultural Services Coordinating Committee (CASCC). Those primarily of provincial significance went to provincial agencies, including the Department of Agriculture, for consideration and implementation.

General Support Services

PAMI

During the year Alberta withdrew from the three-province Prairie Farm Machinery Institute. However, Saskatchewan and Manitoba decided to carry on a two-province operation, following unchanged objectives. This means the Portage la Prairie station will continue to test haying and forage equipment; the Humboldt, Saskatchewan station will test tillage, harvesting and grain drying equipment; and these two stations will work closely with the newly established Alberta Farm Machinery Research Centre at Lethbridge, which will test seeding and spraying equipment and fans.

All test reports published by the Institute continued to be provided to subscribers at a cost of $10 per year or $25 for three years. Individual reports are available at no charge upon request from the Prairie Farm Machinery Institute, P.O. Box 1900, Humboldt, Saskatchewan S0K 2A0.

The Government of Manitoba made a grant of $425,400 to PAMI for the year.

Manitoba Farm Machinery Board

The Manitoba Farm Machinery Board, together with staff, administered the Farm Machinery Act. This involves all phases of the farm implement industry, manufacturers, dealers and producers. Under Board direction, staff endeavor to provide a resource base of information, along with assistance to anyone with a problem involving financial, mechanical or functional aspects of farm machinery.

Repossession — Lenders financing farm machinery by means of a lien note security document, submitted 192 applications for leave to repossess. Staff thoroughly investigated all circumstances related to the applications. After discussion with the purchaser as to their repayment ability, negotiation with the lenders usually produced an agreement for repayment compatible with cash-flow. The Board realizes substantial contributions can be made to Manitoba agriculture by providing basic financial counselling service to producers experiencing a temporary liquidity shortfall.

Complaints — The Board registered 95 complaints. All complaints were investigated and properly concluded, often resulting in a negotiated settlement.

The major problem areas included:

- an alleged failure of a farm machine to perform its intended function
- the unavailability of repair parts during a critical period in the production cycle
- used machinery problems. Staff advised producers of methods to settle disputes arising from these purchases, although they are not included under the Act.

Licences — On March 31, 1988, 410 dealer licences and 142 vendor licences were in force. Each issued licence carries a supporting penal bond. The Board offers a bonding service through the Farm Machinery Act Fund. Under the Fund, 92 dealers and 39 vendors made use of this service.

Dealer Inspection — During this fiscal period, the Board's inspector completed 124 inspections. The annual inspection program gives the Board an opportunity to discuss areas of mutual concern with the Manitoba dealer network.

Board Activities — The Farm Machinery Board held eight regular meetings during 1987/88. The Board's Credit Committee met seven times to consider applications for bonding through the Fund. Thirty arbitration meetings were held to resolve disputes and further investigate applications for leave to repossess requiring indepth discussion and negotiation.

Agricultural Implement Industry — Both manufacturers and dealers experienced a reasonable sales year in 1987. While there was a build-up of used inventory, it was apparent farmers were interested in purchasing good used farm machinery. Dealers and manufacturers have been most co-operative in matters involving the Manitoba Farm Machinery Board.

Communications

Communications services of the department continued to be coordinated through the Communications Branch. These services were designed to support all policies, programs and activities of the department. Direct general support was provided on a daily basis through mass media. Support services were provided to other staff through print media, audio visual production, advertising and a range of instructional and communication aids.

Communication strategies continued to provide the framework for priority program support, with each major strategy being assigned specifically to one communication staff member.

Press services were carried out primarily through the weekly press packet of releases, involving some 282 releases during the year. These were regularly issued to close to 800 recipients. Concentrated media coverage was arranged for major events such as the Weed Fairs, Hog Days, and Crops '88. The Manitoba Beef Commission, the Manitoba Mediation Board, the Special Farm School Tax Rebate and Agri-Food programs also required special communications support.

In print production, over 200 print projects were completed with communication staff providing services ranging from writing, editing and design, to printing arrangements and distribution.

Major revisions in format were made on some of the department's major publications and arrangements were made to have some publications, traditionally issued on an annual basis, revamped to become bi-annual or tri-annual.

During the year over 362,000 pieces of print information were distributed in the form of publications, leaflets, brochures and fact sheets.

The daily radio service "Country Comment", continued to be broadcast on nine radio stations, providing a province-wide daily audience of 25,000 to 30,000 adults. In addition, the branch produced a 16-part radio series associated with the Crops '88 homestudy course.

Department television involved the production of a series of 22 short farm items, telecast on a weekly basis during the fall and winter, on stations at Dauphin, Brandon and Portage la Prairie. In addition, the branch was involved in the production of a number of video items designed for closed circuit purposes.

In other audio visual activities associated with photography, design, graphics, video and slide sets, direct assistance was provided when possible. In other cases where outside producers were involved, communicators provided the required planning and technical coordination. Five slide/tape sets were produced during the year and a number of existing sets were revised and updated.

The distribution centre stocked 220 films and slide sets and handled over 800 bookings of these materials in 1987/88.

The branch continued to monitor all department advertising and plan and produce advertising on department-wide programs and special events. In addition to regular on-going advertising, some 13 campaigns were handled during the year.

The Crops '88 course presented this year was the ninth annual homestudy course produced and coordinated by Manitoba Agriculture. A registration of 1,630 indicated a successful course and the follow-up evaluation by participants showed a high degree of interest and satisfaction.

Communication activities related to the department's many Agri-Food projects continued to increase as these projects became more fully developed. The branch was particularly involved in the production of Agri-Food newspaper supplements and the organization and stocking of pilot video libraries at five locations in rural Manitoba.

Economics

Staff of the Economics Branch compiled, analyzed and disseminated production, marketing and other statistical information for use by producers, other departmental and governmental staff, agribusiness and the public. The branch also provided resource support to the department executive for use in program review, development and evaluation, plus market analysis and price forecasting.

The branch was also responsible for providing leadership and coordination of long-term policy and program developments within the Department.

Statistics

The statistics section's major responsibility was to acquire and provide selected data on Manitoba agriculture. This section, in cooperation with the Economics and Market Analysis Section, assisted Statistics Canada in the preparation of final estimates for many of the crop and livestock statistics.

During the year, the following publications were prepared and distributed:

- Data from the 1986 Census
- 1986 Yearbook of Manitoba Agriculture
- Monthly Agricultural Conditions Reports
- Weekly Crop Reports
- A Look at Manitoba Agriculture
- Farm Income Outlook
- Statistical reports on farm finances such as receipts, expenses, income, value of production, bankruptcies, land values, wages and price indices.
- Statistical reports on crop and livestock production
- Reports on corn, vegetables, special crops and herbicides compiled from surveys carried out by the Section.

Economics and Market Analysis

Analysis staff were responsible for the research and provision of market information, analyses and forecasts for the major agricultural commodities and food. Supply, demand, price forecasts and impact analysis were included in the reports.

Manitoba Agriculture's Outlook Conference was held in conjunction with the Weed Fair at Brandon and Winnipeg in January. The conference provided a regionalized view of future prospects for the agricultural industry.

The analysis of domestic and international markets was also disseminated to staff, farmers and agribusiness through the Manitoba Markets Weekly Report. This report provided up-to-date market information on crops and livestock, and periodic outlook reports and updates on pertinent federal and provincial programs. Staff were also involved in media interviews and numerous regional meetings and seminars held throughout the province.

In addition, this section prepared an overview of primary agriculture and its impact on the provincial economy. This information was contained in the publication "Manitoba Agriculture Review 1986". Staff also wrote two lesson books for the Crops '88 Homestudy Course.

Policy Analysis

The Policy Analysis Section conducted research and analyzed issues, concerns, problems and trends in agriculture. It also assisted in the long-range program and policy planning of the Department. The responsibilities of the section included:

- Analysis of conditions and factors affecting the agricultural and rural communities.
- Evaluation of departmental programs and policies and their impact on the agricultural economy.
- Participation in negotiations and discussions pertaining to interdepartmental and intergovernmental projects and agreements.

During the 1987/88 fiscal year, major emphasis was placed on:

- Participation in the analysis and dessemination of information related to provincial and national stabilization plans.
- Participation in an interdepartmental committee reviewing and analyzing the Canada-United States bilateral trade agreement.
- Cooperation with the federal government to compile data regarding the farm financial situation.
- Participation in several multi-disciplinary studies of agricultural land and water development and conservation projects.
- Participation with other departmental staff in the research project regarding farm management options in periods of low grain prices.
- Participation with other departmental staff in the implementation of commodity strategy profiles.

Manitoba Milk Prices Review Commission

Amendments to The Milk Prices Review Act, proclaimed February 1, 1988, streamlined the ongoing system of milk price controls by eliminating the need for the Manitoba Fluid Milk Commission. It was created as a temporary measure in 1984 under the Natural Products Marketing Act to control soaring wholesale fluid milk prices. The authority and responsibilities of the Fluid Milk Commission were transferred in the amendments to the Milk Prices Review Commission. This step was taken both to reduce administration costs and to eliminate confusion regarding the control system's operation.

Another aspect of the amendments included clarification and strengthening of the Act's Prohibition Section. This was introduced to lend further support and assistance to the enforcement of the control system's minimum retail price control, viewed by the Commission as an essential component of the overall system of controls.

In addition, the amendments updated the fine levels for contravention of the Act; the $100-$3,000 range was increased to a range of $500-$5,000.

As a result of the amendments, the new combined mandate of the Milk Prices Review Commission included the following:

- setting the producer price for fluid milk (class 1 price) by monitoring and maintaining a producer cost of production formula,
- setting the minimum and maximum retail price paid by consumers for fluid milk in Manitoba (except for the far north),
- setting the minimum and maximum wholesale prices for fluid milk charged by the province's processors
- setting the wholesale prices for fluid milk paid by independent distributors/jobbers.

During 1987/88 the Commission continued to actively investigate all possible contraventions of the Milk Prices Review Act.

The five member Milk Prices Review Commission met eight times during the year. The Fluid Milk Commission met for the last time January 6, 1988. In addition, contact was maintained with officials and representatives of Manitoba Agriculture and the producer, processor, retailer and consumer components of the fluid milk industry.

Marketing

Objectives of the Marketing Branch are to identify and develop new markets; to assist in maintaining/expanding existing markets; and to improve and enhance the demand for provincially grown/processed agricultural products.

To achieve these objectives, marketing staff initiated and carried out market development and promotional activities in provincial, national and international markets.

Incoming foreign missions continued to play an important role in the marketing area. Staff were involved with 25 missions this year, setting up and co-ordinating activities with visitors from Japan, Taiwan, Thailand, Malaysia, Singapore, Philippines, Mexico, Denmark, China, Algeria and Indonesia.

Outgoing missions included one to Japan, Hong Kong and China and another to Mexico.

Federal and provincial liaison is undertaken in the marketing area, with Agriculture Canada and External Affairs and also through direct contact with provinces and through the Federal/Provincial Market Development Council.

Food testing and new product development utilized the facilities at the Canadian Food Products Development Centre, the Foods and Nutrition and Food Science Departments at the University of Manitoba.

Throughout the year, considerable promotional support was given to various marketing boards and producers' associations. This included the production of brochures and pamphlets covering pork, U-pick fruits, honey, vegetables, greenhouse and landscaping, special crops and livestock.

As well, marketing staff initiated and co-ordinated the involvement of marketing boards and producer associations in shopping mall and other exhibitions throughout the province. These were held in Portage La Prairie, Brandon, Altona, Steinbach and Winnipeg. Participation has involved pork, turkey, chicken, beef, milk, eggs, honey, vegetables, mushrooms, canola and pulses.

Again this year, the Manitoba Food Products Directory was up-dated and distributed domestically, nationally and internationally.

Support was also provided to Manitoba's livestock industry through participation at Agribition in Regina, Ag Ex in Brandon and Hog Days in Winnipeg. A display and staffing assistance was provided in support of the vegetable industry, at the annual Canadian Fruit and Vegetable Wholesalers' Association Convention and Trade Show in Vancouver.

Overseas in-store promotional banners supporting sales of Manitoba pork, turkey, chicken, beef, honey and canola oil, were provided for the first Canadian Food Fair held by the Nichiryu Group of stores in Japan.

The Manitoba Water Services Board

The Manitoba Water Services Board is responsible for water related activities through the following programs:

1. **Municipal Water and Sewage** — The Manitoba Water Services Board provided technical and financial assistance on 51 ongoing municipal water and sewer projects during the past year. Total construction was estimated at $7.728 million of which $3.29 million was in the form of grants. Twenty-four projects were substantially completed during the year.
2. **Community Water Source Development** — Technical assistance was provided on 39 projects. A total of approximately $128,270 in rebates was paid on 24 projects by the Board to local governments for the development of water sources from which farmers and community residents may haul or pipe water.
3. **Agricultural Community Water and Sewage** — The Board provided technical assistance on nine community projects during the past year. Rebates totalling approximately $228,530 were provided to local authorities for five projects.
4. **Agricultural Area Water Pipeline** — During the past year several pipeline projects were investigated and $71,725 of rebates paid on five systems.

On-Farm Water Services

1. **Water Source Development** — Technical assistance for farm water source development was available, through farm calls and detailed designs, as required, to solve serious water problems. A total of 2,028 requests for technical assistance were dealt with. Financial assistance totalling approximately $82,420 was provided to 75 farmers to assist in the development of satisfactory water resources in situations that did not qualify for PFRA assistance.
2. **Irrigation** — During the year, a total of approximately $26,150 was provided to 14 farmers to assist in the development of satisfactory irrigation systems.

Dugout Filling

During 1987/88, the equipment rental charge was $350 for filling normal-sized dugouts with the pumping distance up to 1.25 mile. An additional charge of $200 was assessed for each additional 1.25 mile of pipe required. A total of 109 dugouts were filled.

Agricultural Representative Service

A major mandate of the Department is to extend the latest in useful, accurate and timely agricultural information to producers. Manitoba's 40 agricultural representatives provide the vital link between researchers, specialists and farm families. They extend a wide range of information on production, management and marketing.

The counselling of farmers and farm families on matters of farm management, farm finances and other areas of need has become a major role for all agricultural representatives. Computer equipped offices have made this service more efficient. In the past year many on-farm problems were effectively assisted through this one-to-one service.

The agricultural representatives also play a significant role in providing feedback to the Department's administration and specialists. This information includes updates on current conditions in rural Manitoba and current needs for research, testing and other services.

While agricultural technology is a prime concern of these staff members, they are also heavily involved in rural community development through 4-H clubs, commodity groups, farm business groups and other district organizations.

During the year, Manitoba's agricultural representatives and regional specialists made close to 200,000 contacts with Manitoba farmers.

Livestock Management and Marketing

The objectives of the Animal Industry Branch are to provide technical services and information to livestock producers and regional extension staff, for the purpose of enhancing the production and marketing of Manitoba's livestock, and to effectively administer regulations under several statutes relating to livestock production and marketing.

All sections were engaged in comprehensive extension activities which included attending regional producer meetings, commodity group workshops, demonstrations and seminars as principal speakers or technical advisors. On-going activities also included mail, telephone and on-farm consultation and the dissemination of timely technical information through news releases, news letters, factsheets, bulletins and radio and TV. Such extension activities cover all aspects of production and marketing including nutrition, housing, breeding, disease control, genetics, marketing, record keeping and husbandry and management practices.

The Branch coordinates many Provincial and Federal/Provincial livestock programs, the success of which often relied greatly on the cooperation of regional staff.

Beef

Amendments to the Animal Husbandry Act were enacted in the spring 1987 Legislature and assented to on July 17, 1987.

Regulations governing the bonding and licensing of auction markets and livestock dealers were developed.

The beef strategy initiated last year was further developed and implemented on a provincial and regional basis by regional and central specialists. It was used extensively within and among branches and regions for program direction and coordination of staffing and funding.

Records log, scale and weight inspection at Federal and domestic plants were supervised. Cattle inventories were made for the Manitoba Beef Commission and 100 on-farm selections of finished cattle were done for producers.

The computerization of registration and inventory of 3,940 brands was completed. Ninety-four new brands were registered.

Genetic Improvement

Technical and extension support was given to the Federal/Provincial Record of Performance (ROP) program, as well as an abridged program developed by regional and central farm management staff, designed to provide quicker data turnaround for producers and to introduce them to the ROP program.

The beef ROP awards, initiated by the branch to recognize the outstanding achievements of individual breeders, were awarded to the Ken Gardner family of Lakeland and the families of Dan and Dave Guilford of Clearwater.

Genetic improvement programs initiated and conducted by the branch are the Progeny Proving Program (PPP) and the Bull Test Station programs. A total of 1,165 bulls representing 12 breeds were tested in five different stations throughout the province. The PPP program continued to stimulate better record keeping. The use of artificial insemination through the offering of semen from the top gaining test station bulls and industry reference sires was a significant support to cooperating herd owners.

Two Agri-Food Projects were coordinated by the section. The Manitoba Beef Productivity Improvement Program demonstrated the increased productivity which is possible through the use of a comprehensive breeding and nutrition program. The Genetic Improvement Evaluation Project demonstrated the increased productivity achieved through the use of genetic improvement programs. This project has been accelerated and now includes data on 7,243 cows in 120 purebred and commercial herds. Data from this study are being used as benchmarks in other studies. Preliminary analysis show a 150 lb. per cow production difference between the top and bottom herds in this project.

Regional Activity

Regional program emphasis on beef herd management, nutrition, and performance programs, resulted in increasing producer adoption of several important management concepts. Trends most noticeable among regional livestock producers included a move to earlier calving, stong support of performance programs and continued extensive use of station tested yearling bulls.

The Agri-Food beef-related projects in each region continued to provide an important focal point for discussions on nutrition, feeding management and other aspects of good herd management. The bull test stations also provided an important support to the beef industry with producers placing more and more confidence in station tested sires.

Other regional extension activities in support of the beef industry included short courses, seminars, meetings, demonstrations, tours and consultations. Major topics covered at these events included pasture management, high tensile fencing, use of implants, fly control, pregnancy testing, performance testing, feed ration balancing, livestock handling facilities and sire evaluation.

Marketing — Beef Breeding Stock

Marketing assistance was provided to beef breed associations, private exporters and individual breeders, particularly in the areas of consultation on export quotations and documentation procedures. A local based export group was assisted in one of the largest individual sales of beef breeding stock from Manitoba, involving three truckloads of genetic seed stock to Latin American buyers.

Dairy

Farm & Plant Inspection

In its regulatory role of assuring the quality and safety of milk and milk products produced and processed in Manitoba, the branch maintained its dairy farm, plant and milk depot inspection programs. Visits totalling 2,716 were made by farm inspectors and 618 plant and milk depot inspections were conducted.

In response to North American concern with possible inadequacies in pasteurization, staff introduced an intensified review of in-plant system critical points which could be related to post-treatment contamination. They also examined processing line and equipment installation blueprints, to ensure that cross contamination between raw and pasteurized products could not occur.

Timing and sealing of control pumps, thermographs and pressure differential switches continued. All processing records and associated data were regularly monitored.

Including seminars and meetings, 167 calls were made to plants regarding product quality. Tests for quality and composition of farm separated cream made by field staff numbered 1,882. One hundred and thirty bulk milk wash-up station evaluations were carried out. Eight margarine storage facilities and one margarine processing plant were inspected. Random sampling and testing of margarine samples for quality and composition were conducted. Inspections and/or appraisals totalling 209 were conducted on milk transports, milk graders and raw milk sample holding facilities.

The annual three day milk graders' course and four day milk receivers' course were held in November with a total attendance of 17. All were successful in passing the courses, and licenses were issued. Refresher courses were held in Winnipeg and Brandon for all licensed drivers. Sixty-nine attended.

Dairy Laboratory

The provincial dairy laboratory routinely analyzed milk and milk products for micro-organisms, antibiotics, added water and effective pasteurization. These tests totalled 57,840 in 1987/88. In addition, somatic cell counts, which indicate the likelihood and severity of mastitis in a herd, were conducted monthly on herd milk samples. Compositional analyses for producer and processor payment and milk recording purposes totalled 225,505.

The chemistry laboratory conducted additional analyses to ensure that dairy products met compositional requirements, conducted various analyses for resolving quality and other problems and prepared rodac plates, standards solutions and indicators for use by industry and department staff.

Genetic Improvement

Manitoba Agriculture supports two milk recording services: the Dairy Herd Improvement Association (DHIA) and the Owner/Sampler (O/S) program. The purpose of both is to improve the production performance of dairy cattle in the province.

Department staff provided support and took part in discussions with the Manitoba Milk Recording Committee. The committee's objective is to integrate and privatize all milk recording program field services in Manitoba, which will give producers a greater role in administering such programs and increase participation. Discussions continue on this important issue.

A new computer program, developed in cooperation with Agriculture Canada and the province of Ontario, Alberta and British Columbia was implemented in April 1986. While the regular milk recording data analyses is satisfactory, delays have been encountered in implementing acceptable annual summary reports for both 1986/87 and 1987/88.

During 1987, 27 new herds were enrolled in DHIA and 11 herds were discontinued for a net increase of 16 herds. At year end, 307 active herds were on the program. On March 31, 1988 the waiting list for producers wishing to enroll on DHIA was four. The DHIA grant system remained at $1/cow/year and 75 cents per herd mile. This grant was paid directly to the 21 DHI Associations in proportion to the number of cows tested and the distance travelled.

The Owner/Sampler (O/S) program had a net decrease of 11 herds in 1987. A total of 112 herds were on test on December 31, 1987 with 12 new herds enrolling in the program. Twenty-three herds discontinued testing.

The National Identification Program (NIP) is used by producers to identify grade animals. Manitoba dairy producers are now benefiting from the increased value of positively identified dairy cattle and there was a further increase in the NIP program in 1987.

A priority with the Dairy Section is the Somatic Cell Count Reduction Program which was instituted in 1987

in response to the excessive somatic cell counts being observed in milk of Manitoba dairy herds. A high somatic cell count in herd milk is indicative of mastitis and reduced milk production of cows within the herd.

Staff have published educational material to help producers lower somatic cell numbers, are conducting a series of farm clinics in this regard. They are working directly with producers, whose herds have counts in excess of 800,000 per ml, to improve producers management of milking. As well, the milk quality penalty program has been extended to include a fifth factor, high somatic cell count.

Extension

The provincial dairy industry was particularly stable through the 1987/88 year, according to reports from the regions. The industry was supported in the regions by a wide range of activity that included demonstrations, barn clinics, production meetings, judging schools, seminars, district meetings and tours. Topics covered at these events included calf and heifer rearing, breeding and production, animal health and husbandry, milk recording and analysis, the quota situation, udder health and milk quality, butterfat test, facilities, feeding and nutrition, and heifer replacement. In addition to these group activities, extensive producer counselling was carried out by regional staff.

Marketing — Dairy Breeding Stock

Staff assisted the Manitoba Holstein Friesen Association, federal agencies and private exporters with co-ordination of incoming missions from Thailand and China — two countries where demand for Canadian dairy breeding stock appears to be increasing.

Marketing staff also assisted private exporters in areas such as animal sourcing logistics and quotation preparation, particularly for markets in Venezuela and Thailand.

Demand for good quality dairy cattle is increasing and staff are continually working with producer associations and exporters to help co-ordinate their efforts.

Swine

About 1,000 people attended Manitoba Hog Days in Brandon. This popular two-day annual event, organized by a joint industry-government committee, with financial assistance from the Manitoba Hog Producers' Marketing Board, featured educational seminars, a barrow show and auction, and 83 commercial exhibits. The annual Manitoba Swine Seminar, an educational event featuring international experts in swine housing, nutrition and behavior, was held in Winnipeg with 225 people attending.

Genetic Improvement

Manitoba Agriculture supports two swine performance testing programs: the Federal/Provincial ROP Program and the Commercial Hog Improvement Program (CHIP).

In 1987, 3,874 animals from 27 herds were tested in the ROP home test program. A total of 162 boars were evaluated at the Brandon Test Station. The station ceased operation in October and is due to re-open once responsibilities for its operation have been successfully transferred from Agriculture Canada to the Manitoba Swine Breeders' Association.

Five herds, representing 551 females, participated in the National Sow Productivity and Management Program, with average reproductive performance of 2.3 litters weaned and 19.6 pigs weaned/female/year.

The Commercial Hog Improvement Program (CHIP) is a performance testing and record keeping program available to commercial producers. The department provides an ultrasonic backfat probe service and various record keeping materials. Producers were also provided with ear notchers, sow cards, sow breeding calendars, pocket notebooks and other aids to facilitate the collection of production information. Computer software for analysis of reproductive records was distributed to regional staff for demonstration purposes and a producer computer recording club was established in one region. During the year, nine commercial producers evaluated 578 gilts for backfat thickness and growth rate. On-going training and support was provided to staff and producers involved in ultrasonic evaluation of backfat thickness.

Three one-day courses in swine artificial insemination and reproductive management were conducted, with a total of 75 producers in attendance.

Extension

A high level of interest in hog production was reported in all regions due to continued high hog prices and low costs. This was reflected by the number of enquiries handled by departmental engineering staff concerning renovations, new barn construction and expansion of existing facilities. Topics addressed at producer extension meetings organized by departmental staff focused on feeder barn facilities and nutrition, tripartite stabilization and the Canada-U.S. Free Trade Agreement. Two regional one-day swine seminars were also held during the year. Department staff participated in the drafting and editing of a comprehensive booklet on swine feeder barn design and management, which was then published by the Veterinary Infectious Disease Organization.

Agri-Food Projects

Four projects related to swine production operated during the year. The swine artificial insemination technician service continued, with a total of 755 inseminations performed. Farm calls were made by staff to increase enrollment and a joint government-industry steering committee met twice to provide guidance and future direction for this project. Six trials involving four different types of self-feeders were carried out under the Self-Feeder Assessment Project. Results were reported at various meetings throughout Manitoba, Saskatchewan and Alberta. The Interlake Sow Feeding Project terminated and results were presented at the producer tour of the project. The Swine Herd Health Project in the Northwest Region continued, with participants meeting routinely throughout the year.

Marketing — Swine Breeding Stock

Assistance was provided to the Manitoba Swine Breeders Association, federal agencies and private exporters in co-ordinating incoming swine missions from Japan, Thailand, Malaysia, Taiwan, Philippines, Mexico and China, as well as the Netherlands.

Assistance was provided as well in the areas of advice and consultation on export procedures, export documentation and international transportation for sales of purebred seed stock to various destinations including Taiwan, Japan, China, Philippines and Thailand.

Staff assisted with the development of marketing strategies for a new swine AI Stud Program under development in the province, as well as assisted private exporters with the sourcing of statistical information, to help in their efforts in developing export markets in S.E. Asia and South America.

A swine breeding stock promotional display was placed in the 1988 Hog Days at Brandon.

Marketing — Pork

The activities of three visiting missions from Japan were coordinated and arrangements were finalized with the Japanese for the shipment of pork to a major group of Japanese retailers for their 1st Canadian Food Fair (October, 1987).

During a mission to Japan, the Minister of Agriculture, marketing branch director and industry representatives, viewed first-hand the Nichiryu promotion in many of their stores. Manitoba pork was prominently featured with very successful results.

In conjunction with the Canadian Food Products Development Centre at Portage la Prairie and the Food Science Department at the University of Manitoba, work continued in the areas of chilled pork development.

Within Manitoba, the Manitoba Hog Producers' Marketing Board was assisted with shopping mall and exhibition promotions, preparation and distribution of recipe pamphlets, and organization of Meat Month.

Sheep

Extension activities are the main function of this section of the Branch. The newsletter Sheep Sense, which includes a market report, was published bi-monthly. In addition to regional producer meetings, on-farm demonstration projects featuring out-of-season breeding techniques were conducted. The Annual Sheep Seminar was a successful event.

Support was provided to the Federal/Provincial ROP Program.

The sheep specialist coordinated the Annual Wool Collection and provided advice and assistance to the Manlamb Producers' Co-op Ltd., and the Manitoba Sheep Association (MSA). He also provided promotion, sale management assistance, and expertise in stock selection for the MSA Summer Sheep Sale at Dauphin, which has become the major breeding stock sale in the province.

The past year has seen exports, particularly of Romanovs to the U.S. Assistance and consultation on export opportunities was provided on a request-for-service basis. Some assistance was provided to the Manitoba Sheep Association in urban displays, on the National Meat Month promotion and in preparation and distribution of recipe pamphlets.

The sheep industry in Manitoba continues to play an important part in Manitoba's agricultural economy as an alternate income source on many farms. Increased activity by the Manitoba Sheep Association resulted in both the MSA and Manitoba Agriculture increasing their ability to identify and priorize areas within the sheep industry requiring attention. Preliminary work in the assembling of an industry profile and a strategy for industry development is underway.

Poultry

Extension activities included a distribution of an ROP book for broiler breeders and instructions on its use. Records from 30 participating producer flocks were processed and summarized.

Breeding — The hatchery monitoring project, in which the effectiveness of the sanitary procedures of both hatcheries and their supply flocks is assessed, was continued. In addition, a self-monitoring program, utilizing supplies provided by the branch, was conducted by five hatcheries.

Regulatory — Application of the regulations under the Livestock and Livestock Products Act involved pullorum-typhoid testing of all hatchery supply flocks and the inspection of premises.

In addition to the pullorum test, turkeys were tested by blood samples for Salmonella typhimurium, and Mycoplasma's gallisepticum, synoviae and meleagridis. Samples of blood were taken from all chicken breeder flocks and tested for Mycoplasma gallisepticum and infectious Bursal Disease. All turkey breeder flocks were tested periodically to maintain a Mycoplasma meleagridis-free status.

Disease Control — The Manitoba Poultry Health Committee met three times in 1987/88. Work was initiated on an industry based compensation fund for infectious laryngotracheitis.

Turkey breeders started to adopt an extensive vaccination program designed to protect the industry from a wide range of diseases.

Marketing — In marketing, three incoming missions from Japan were interested in Manitoba's poultry industry.

Manitoba turkey was successfully promoted through a major retail food chain in Japan, with special emphasis during their first Canadian Food Fair. A delegation from Manitoba, headed by the Minister of Agriculture along with the Marketing Branch Director and industry representatives, viewed this promotion first-hand in various Japanese locations.

The Food Marketing Officer in the Branch co-ordinated activities of the Manitoba Turkey Producers' Marketing Board and the Manitoba Chicken Broiler Producers' Marketing Board, in the development of rural and urban displays, and on preparation and distribution of recipe pamphlets.

Feed Testing Laboratory

The laboratory analyzes feed samples submitted by livestock producers, feed companies, department staff and others. Chemical analyses are forwarded to nutritionists for interpretation and comment. For the year, the laboratory analyzed 581 samples of grain, 2,558 forage samples, 951 complete feed samples and 323 unclassified samples, for a total of 4,413 samples. Staff performed 19,483 analyses on these samples.

This was the first full year of operation for a new mineral analyzer. It reduced the workload and vastly expanded the capability of supplying mineral analysis.

Animal Nutritional Services

These services ensure that producers and owners of all species of animals have the most up-to-date technical information on nutrition and nutritional practices. Detailed and readily understandable feeding recommendations are provided in response to results of feed analysis.

For the year, 1,557 written reports were issued as a result of 3,478 individual feed samples submitted. The total number of reports issued is down from 1986/87 because of a temporary decrease in testing by the Manitoba Crop Insurance Corporation's Livestock Feed Security Program. Approximately 650 reports were prepared in response to samples submitted by individual producers and agri-business, including local veterinarians and feed companies.

As well as written recommendations based on feed analysis, nutritional counselling was provided in several hundred cases, both verbally and via mail, to producers and agri-business.

Nutritional expertise was provided to the Veterinary Services Branch and local veterinarians, on nutritional implications of disease investigations, preventative management and humane treatment of animals.

Other activities included investigation into lysine content of Manitoba barley, and into trace mineral levels in forages in the Central Region.

Engineering Services — Livestock

Technical assistance was provided to livestock producers in many facets of engineering. Departmental engineers advised producers in matters related to planning, development and remodelling of livestock operations, farmstead and building layouts, structural design and construction, equipment design and selection, ventilation system design and installation, facility operation and management, problem solving and trouble shooting. Engineering services were provided directly to producers through more than 650 farm calls related to livestock facilities.

Engineering information was extended to more than 2,700 livestock producers and agribusiness personnel through 50 presentations at public meetings and producer seminars. Through the building plan service operated by the department, 1,371 standard building plans were provided in response to producer requests. More than 270 additional plans or plan sets were developed or modified to meet the specific needs of individual producers throughout the province.

Major evaluation and demonstration projects undertaken include farm and pasture fencing, livestock build-

ing ventilation, on farm feed storage and preparation, animal handling and loading facilities, animal feeding systems and equipment, manure management techniques, and energy use and conservation in livestock production.

Veterinary Services

The Veterinary Services Branch develops and administers the programs and activities which are proven necessary to assure rural and urban Manitobans ready access to competent veterinary services. Adequate veterinary care for the livestock industry is considered an important factor in the overall Canadian economy. All activities are directed to assure the Manitoba livestock industry of adequate veterinary care.

Western College of Veterinary Medicine

Manitoba shared in the operating cost and the student quota of the Western College as an ongoing partner with Alberta, British Columbia and Saskatchewan. There are 72 student positions, with slightly fewer graduates, and competition for the students remains high. Manitoba's quota of 12 students has barely sufficed over the past years.

Veterinary Science Scholarship Fund Act

This activity was introduced in 1946 to counteract a declining interest in veterinary medicine, to assist Manitoba students in their four years away from home study and to encourage their return to rural Manitoba practice. For each year of Manitoba service, one-fifth of their total scholarship is written off. Scholarships of up to $750 per year per student are available. Currently, about 25 students out of a total Manitoba enrollment of 48 are assisted from this fund. Student aid has replaced the scholarship as the primary source of funding.

Veterinary Student Summer Employment

Manitoba students must go out of province for the latter four of their six year university course. This four year separation tends to break their home ties with Manitoba unless they are brought back for their summer recess each year.

The veterinary student summer employment activity attempts to maintain their home preferences, intersperse each of their academic years with three months of practical training appropriate for their academic level, and favourably impress them with the satisfactions to be gained from rural Manitoba service. Twenty-six students were employed in 1987.

Veterinary Services Act

This Act provides for a group of municipalities sharing a common need for resident veterinary services, to form a Veterinary Services District, to support such services through the maintenance and operation of a district animal hospital.

Thirty-one districts have been established, 30 hospitals constructed and 55 veterinarians have been recruited to serve under the program. The annual cost to maintain and operate the districts is shared equally between the municipalities and the province and totalled $783,200 in 1987.

This resulted in 55 veterinarians providing over 80,000 on-farm and in-hospital paid services and over 90,000 non-paid veterinary extension advisory services. These involved over 600,000 animals valued in excess of $300 million. The potential saving in livestock productivity approximates $50 million per year.

Veterinary Drug Distribution Centre

The Veterinary Drug Distribution Centre was established in 1974 to provide veterinarians with the volume buying power which would allow them to compete in the market place, to regain the drug business, and thereby stabilize their services to farmers.

Over the 13 intervening years, this volume buying power, coupled with the mark-up restraint in return for hospital privileges, has more than tripled the veterinary share of the market and the percentage of drugs which are administered under professional advice. This development has made the drug activity the most significant factor in stabilizing rural veterinary services.

In 1987/88, for the first time, this service achieved complete recovery of financing. At the same time, the activity directly benefited the farmers in reduced drug costs, in less losses due to drug misuse, in less need to supplement veterinary income, and in greater use of veterinary services. The total identifiable benefit approximates $6.6 million for the year.

Manitoba Semen Distribution Centre

The Manitoba Semen Distribution Centre makes available high quality semen from genetically proven bulls, wherever located, without the cost of owning, proving and keeping them. In 1987/88, the centre experienced phenomenal growth to over $1 million in purchases. The A.I. centre provides a regular truck distribution of semen from 14 studs across Canada and the U.S. to all technicians and private breeders throughout the province. The Semen Distribution Centre is operated on a cost recovery basis.

Humane Treatment of Animals

The Animal Diseases Act now states that livestock deprived of normal feed and care are classed as "diseased" and thereby subject to the veterinary directions authorized under that Act. Over 90 per cent of rural veterinarians have volunteered to act on demand as humane inspectors.

A highly cooperative working arrangement has been developed with the R.C.M.P. Over 70 cases were handled this year with about half proving unfounded. Many responded well to veterinary direction and only a few required court action.

Field Services

Field activities dealt primarily with overseeing the expenditure of grant monies in the 31 Veterinary Services Districts, in conducting field investigations of difficult and obscure cases presented to the laboratory, in coordinating the humane inspections carried out in rural Manitoba, in acting as veterinary consultant to the Drug and Semen Centres, and in extending veterinary information to farmers. This position worked closely with practicing veterinarians, with local district boards, with the laboratory staff, and with agriculture representatives and livestock specialists.

Veterinary Laboratory Services

The Veterinary Laboratory is the only full scale diagnostic laboratory serving the livestock industry in the province. It provided prompt and thorough identification of pathogens from outbreaks of disease in herds or flocks. This information was used by veterinary practitioners to treat the herds at risk, thereby preventing further losses. The swift remedial action afforded by the information from the lab assisted in preventing the spread of disease to adjacent farms.

The veterinary laboratory is a reference centre for veterinarians, livestock owners and others who require counsel in subjects of animal health and welfare. It is the first line of defense against exotic diseases which chance to invade provincial herds or flocks.

The mammalian pathology and avian medicine section is the receiving area for carcasses and tissues from herds or flocks suffering disease outbreaks. The cause of a disease outbreak may be identified at this point, permitting prompt remedial action in the herd or flock of origin. In many cases, the specimens are distributed to the other laboratory sections for further tests to identify the pathogens they contain. Veterinarians and livestock owners are often in close contact with laboratory staff in this section.

The infectious disease section deals with the isolation and identification of a wide variety of animal pathogens of viral, bacterial, fungal and parasitic nature. Positive identification of the pathogen permits the adoption of appropriate treatment and preventative measures. This section liaises with public health authorities and with federal laboratories in cases beyond our internal capability. This section also conducted thousands of serological procedures on serum samples from birds that are to be exported to the U.S. New ELIZA test equipment is a most welcome recent acquisition which will aid greatly in implementing preventative and diagnostic medicine in large poultry flocks and animal herds.

The clinical pathology and toxicology laboratory deals primarily in the determination of blood chemistry and cell abnormalities which are diagnostically significant of specific disease conditions. This data is most frequently requested in sick animals under treatment but where the diagnosis is still obscure.

The histology section prepares tissues for microscopic examination in support of the mammalian and avian pathologists.

The toxicology and micronutrient laboratory experienced a marked increase in submissions due to demonstrated ability to decrease turnaround time, and at the same time to decrease the cost to the producers.

Bees and Honey

In 1987, some 108,854 bee colonies were producing honey in the province. These originated from imported packages (46,727), from wintered colonies (61,614) and from nuclear colonies produced from winter stock (513).

Staff extension activities centered on newsletters, meetings, personal visits and support to the four regional beekeeper associations. Assistance was provided to the Red River Apiarists' Association in organizing the Manitoba National Honey Show and in providing displays at regional fairs and exhibitions. Close liaison was also maintained with the Department of Entomology, University of Manitoba, particularly with regard to night school classes and regional beekeepers meetings.

Support to the beekeeping industry at a national level was continued through support to the Canadian Association of Professional Apiculturists and the Canadian Honey Council. The Provincial Apiarist, as president of the Canadian Association of Professional Apiculturists, was considerably involved in the Tri-Country Symposium on Africanized Bees and Parasitic Mites held in Edmonton.

The Manitoba Crop Insurance Corporation again offered crop insurance on the honey crop in 1987. Thirty-six beekeepers insured over 20,000 colonies,

paying premiums of $58,180 and receiving payouts of approximately $55,000.

Successful market activity resulted in the first sale of Manitoba honey to a Japanese trading company and further shipments to Denmark. Marketing staff continued to support Manitoba Honey Producers in the coordination and development of rural and urban displays, and in the preparation and distribution of recipe brochures.

Apiary Inspection

In 1987, a total of 11,116 colonies were inspected and 62 (0.6 per cent) of them were found to be infected with American Foulbrood Disease (AFB) while no colonies were infected with European Foulbrood Disease (EFB). Of the 376 beekeepers whose operations were inspected, 22 or 5.9 per cent were found to have equipment with AFB present.

Bee Mite Surveys

Additional staff were hired to conduct a survey of established colonies and imported package bees for the presence of the honey bee tracheal mite. Random sampling of package bee shipments to Manitoba was conducted. A total of 778 one-hundred bee samples were collected and analyzed. Bees infested with the tracheal mite were found in two shipments of bees orginating from two separate shippers in Georgia. The two shipments totalled approximately 2,300 packages and were distributed to 52 beekeepers. All apiary sites that received bees from the infested loads were quarantined and allowed to operate until the end of the honey flow, at which time the beekeepers were requested to destroy the bees. All of the beekeepers involved cooperated with this request except two. Regulatory efforts are continuing to have all of the affected colonies destroyed.

Research

The provincial apiarist continued his involvement with the Agri-Food research project which was funded through the Manitoba Beekeepers' Association and begun in 1985. The purpose of the project was to study the effects of various pallet arrangements of hives on bee drift and to determine the honey production potential of various nectar producing crops. Staff assisted with another Agri-Food research project to study chalkbrood disease in leafcutter bees.

Bear Damage to Apiaries

Under the bear fence grant program, administered by the Department of Natural Resources, beekeepers are eligible for a $100 grant for each electrified fence erected around an apiary. Each beekeeper is eligible to claim for a maximum of 10 fences per year. During 1987/88, a total of 19 grants were paid.

The Department of Natural Resources also offers a bear damage compensation program to compensate beekeepers for hive equipment losses caused by bears. In 1987/88, beekeepers were paid a total of $19,000 under this program.

Alfalfa Leafcutter Bees

Alfalfa leafcutter bees are managed to pollinate alfalfa for seed production. These bees reproduce and generally increase their numbers about 1.5-fold annually. This allows the beekeeper the option of increasing the acreage of alfalfa to be pollinated by leafcutter bees the following year or selling the surplus bee larvae (sold in the cocoon stage) to foreign or domestic markets.

The Extension Apiarist supported the leafcutter bee and alfalfa seed industries through extension activities such as newsletters and personal visits and by serving as a technical advisor to the Manitoba Alfalfa Seed Producers' Association (MASPA). He also served as the Manitoba representative on the Technical Advisory Committee for the Canadian Leafcutter Bee Cocoon Testing Centre and on the MASPA Agri-Food project steering committee.

In 1987, MASPA completed the third year of a three year $117,000 Agri-Food project to demonstrate practical methods for the prevention and control of chalkbrood disease in leafcutter bee operations.

A producer survey conducted by MASPA indicated that chalkbrood disease remains limited to the Interlake region of Manitoba, where one case of chalkbrood turned up in the Poplarfield area.

During 1987, MASPA, in cooperation with the Department of Agricultural Engineering, University of Manitoba, designed and constructed a mechanized dipping system for disinfecting leafcutter bee nesting equipment. Twenty-two cooperators participated in the evaluation of this unit during the spring, when 8,875 boxes were disinfected. These producers indicated the machine was preferred over the more laborious and time-consuming manual means of nest disinfection.

Crops Management and Marketing

Field Crops

The crops strategy developed in 1986, was further refined with major emphasis placed on the development of economic thresholds for weed, insect and disease control. The resulting recommendations provided farmers with significant information pertaining to economic considerations of pest control. Other issues included the identification of research needs relating to crop production, and the technology transfer of new production information.

On the marketing side, major emphasis was focused on the development of new and expanded markets, and new food products. Other efforts which received special attention included familiarizing producers with the benefits and risks of crop marketing options, and increased information on markets and market trends.

Crops staff were extensively involved in the production of the Crops '88 homestudy course. It dealt with the marketing and economic production of wheat, barley, canola and flax, and was designed to help producers improve their production and marketing efficiency in these crops. The lessons dealing with production techniques were directly aimed at maximizing returns through efficient placement of dollar imput. Over 1,600 participants enrolled in the course.

Corn and Sunflower Testing

The Manitoba Corn Committee and Manitoba Sunflower Committee annually co-ordinate the testing of corn and sunflowers in Manitoba. In 1987, corn trials were conducted at three locations and sunflowers at five locations, in co-operation with two Agriculture Canada Research Stations and the University of Manitoba. The performance data generated was used for the registration of new hybrids in Canada, and the recommendation of new hybrids in Manitoba. The combined 1986 and 1987 performance data was used to support registration of seven grain corn hybrids and seven oilseed sunflower hybrids.

New Crop Investigation and Development

The search for new crops which have feasibility for production in Manitoba continued in 1987. New crops investigated for the first time included borage, caraway and evening primrose.

The crops investigated for timely planting included safflower, Kaiware radish, yellow mustard and soybeans. Seed multiplication of lupin and lathyrus were successful.

Investigations into fertilizer placement with canaryseed provided useful results. Seedling damage was visually noticeable when 80 kg/ha of nitrogen fertilizer was applied with the seed, but at the end of the season there was no yield difference.

Herbicide investigations with lupins and lathyrus were conducted in conjunction with the Weeds Section, the University of Manitoba and Agriculture Canada. In addition, fungicide trials for control of Sclerotinia wilt in lentils were conducted.

Seed Production

A total of 1,296 Manitoba seed growers devoted 128,245 ha (316, 766 acres) to seed production in 1987. This represented an increase of 13,949 ha (34,455 acres) from 1986.

Table I

Major Crop Kinds Planted For Seed Production — 1987

	Hectares	Acres
Wheat	47,398	117,074
Oats	2,789	6,889
Barley	23,064	56,969
Flax	13,008	32,130
Canola	2,454	6,061
Other	39,532	97,643
Total	**128,245**	**316,766**

Variety Evaluation — Agri-Food

The variety evaluation project funded under the cost-shared agreement between Agriculture Canada and Manitoba Agriculture was conducted for the ninth consecutive year. The evaluation determined the performance of 19 crops, including 98 varieties of cereal, oilseed and special crops, a large number of forage entries, cultivars of six vegetables, and numerous lines of potatoes. The trial locations for the major crops were distributed through all five regions of the province.

The performance data generated in this project is broadly used in making annual variety recommendations.

Pulse Crop Demonstrations — Agri-Food

Pulse crop demonstrations were established at seven on-farm sites in co-operation with the Manitoba Pulse Growers' Association. Six of these demonstrated the new semi-leafless field pea variety Tipu, and the seventh involved 41 entries of new varieties and lines of field beans. The field bean types included navy, black, pinto, dark red kidney, light red kidney and red Mexican. Trials of field peas sown with mustard, and

field peas with canola, were established at the University of Manitoba, Plant Science site at Portage la Prairie.

Publications

Crops section staff actively participated in developing variety recommendations, and assembled the variety performance data for publication in the "1988 Crop Variety Recommendations for Manitoba", a booklet of major importance.

A new publication "Field Crop Production Guide for Manitoba 1988-90", was prepared and published. Staff assembled the information to be included in this broadly expanded publication, replacing the former annual "Field Crop Recommendations for Manitoba" booklet.

In order to provide Manitoba farmers with the most up-to-date information on crop production, four publications relating to specific crops produced in Manitoba were updated and reprinted. In addition, soil conservation recommendations were added to bulletins dealing with low residue crops.

Extension and Promotion

As part of the technology transfer to the farming public, crops section staff participate in the presentation of crop production information at regional extension meetings. During the 1987/88 fiscal year, staff gave presentations at 33 regional meetings.

In conjunction with the promotion of good farming practices, staff encouraged farmers to use high quality pedigreed seed. According to information supplied by the Manitoba Crop Insurance Corporation, the use of pedigreed seed of flax, barley and canola in Manitoba has increased annually in a range from 3.9 to 3.1 per cent since 1981. In that period the use of pedigreed wheat seed increased an average of 1.9 per cent annually.

The adoption of new improved crop varieties by Manitoba farmers was actively promoted. The most popular varieties of the major field crops, in terms of 1987 plantings, first appeared on the recommended list four to seven years earlier.

Table 2

Summary — Cereal, Oilseed and Major Special Crops — 1987

Crop	Hectares	Yield per Hectare	Price	Value of Production
Wheat	1,940,000	2.01 t	$100.00/t	$394,440,000
Barley	680,000	2.82 t	62.50/t	121,148,000
Oats	180,000	2.29 t	89.50/t	37,260,000
Flax	320,000	1.26 t	195.00/t	79,200,000
Canola	400,000	1.45 t	255.00/t	150,450,000
Sunflowers	28,000	1569 kg	19.8/kg	8,989,000
Field Peas	72,000	1.98 t	194.00/t	27,975,000
Mustard	6,000	1270 kg	26.4/kg	2,002,000
Lentils	24,000	1532 kg	28.6/kg	11,011,000
Canaryseed	10,000	1322 kg	22.0/kg	2,961,000

Crop	Acres	Yield per Acre	Price	Value of Production
Wheat	4,850,000	29.9 bu.	$2.72/bu.	$394,440,000
Barley	1,700,000	52.4 bu.	1.36/bu.	121,148,000
Oats	450,000	60.0 bu.	1.38/bu.	37,260,000
Flax	800,000	20.0 bu.	4.95/bu.	79,200,000
Canola	1,000,000	25.8 bu.	5.79/bu.	150,450,000
Sunflowers	70,000	1400 lb.	9¢/lb.	8,989,000
Field Peas	180,000	29.4 bu.	5.28/bu.	27,975,000
Mustard	15,000	1133 lb.	12¢/lb.	2,002,000
Lentils	60,000	1367 lb.	13¢/lb.	11,011,000
Canaryseed	25,000	1180 lb.	10¢/lb.	2,961,000

Marketing — Special Crops

Interest in off-shore markets continued to be strong with commercial enquiries frequently coming from Europe, the Pacific Rim countries and the Mediterranean area. Interest continued to be strong in field peas, lentils and oilseeds. Marketing staff maintained a close liaison with industry, producer associations and growers to assure a co-ordinated approach to market development of special crops.

Four incoming missions had an interest in special crops. The Japanese Buckwheat Millers' Association group again made their annual visit and this year agreed to a plan for joint investigations of factors influencing buckwheat quality. In the domestic realm continued assistance was provided to the Pulse Growers' Association in promotion designed to encourage increased consumption. Other work supported growers and industry in developing new and expanded markets for sunflowers, canary seed, mustard seed and grain corn.

Work was completed on a new Grains, Oilseeds, Special Crops and Forages seed kit which was distributed world-wide to Canadian Embassies and to international firms engaged in export markets for special crops.

During the year there was a noticeable increase in the number of enquiries regarding opportunities to expand and develop markets for wild rice. Assistance was provided through the provision of information, promotional material and recipe pamphlets.

Forage and Pasture Management

The grassland section coordinates and develops regional forage programs to meet the needs of Manitoba's livestock producers. A major part of this program has been the establishment of grassland societies and 14 regional pasture projects.

Farm participants are directly involved in the operation of these projects and they supply the cattle for the trials. Regional staff administer the projects and the department pays the operating costs. The program has been most beneficial in demonstrating the benefits of good forage management involving grass, legumes and annual crops.

A forage strategy developed in 1987, provides a background to the forage industry in the Province, presents relevant objectives, and outlines an implementation process which focuses on marketing, research needs, technology transfer, and resource conservation. The strategy provides direction for all ongoing and new forage initiatives in the Province.

Strategy development led to five hay auctions conducted in the Interlake and Central regions. Producers consigned a significant amount of high quality hay. The concept was well received by buyers and sellers. Because of the large hay supply, prices were lower than anticipated.

Tame Hay Production

The department continues to promote tame hay as a base winter feed supply. The area planted to tame hay increased in 1987 by 40,000 hectares (100,000 acres). Total production was 2,903,000 tonnes (3,200,000 tons), 6 per cent lower than 1986, which was the highest reported yield in the last 50 years. 1987 production was 23 per cent higher than the average of the previous 5 years.

The majority of the tame hay produced was consumed by Manitoba's ruminant livestock industry. In view of the large crops in both 1986 and 1987, the average price for tame hay decreased to an average of $44.64 per tonne ($40.51 per ton). Advice and assistance was provided to private exporters on trial shipments of forages, particularly to European markets. Market intelligence was developed to identify product mix and trade patterns on processed forage crops and compressed bales.

Agri-Food Projects

There were 12 projects designed to improve the production, handling, and use of forages through forage/livestock demonstrations. These included economical methods of on-farm storage, processing and feeding of forages, and recommended practices to improve the use and management of pastures. Over 150 demonstrations were conducted throughout Manitoba, with very good acceptance of the projects by farmers and staff.

Forage Seed Production

The total farm gate value of forage seed production in Manitoba was just over $9.0 million in 1987.

A 20 per cent increase in the total area harvested in 1987 coupled with generally good growing conditions, resulted in a 33 per cent increase in production. In particular, alfalfa, birdsfoot trefoil, and sweet clover production doubled from 1986 to 1987.

There continued to be a stong demand for all forage seed commodities, both domestically and for the export markets. Significant price increases were experienced for bromegrass, Kentucky bluegrass and timothy. In total, farm gate value of all forage seed crops increased 72 per cent in 1987.

Table 3
1987 Production and Farm Gate Prices

	Production		Price Per		Farm
	kilograms '000	pounds '000	kilograms $	pounds $	Value $
Alfalfa	1900	4185	2.42	1.10	4,604,000
Birdsfoot Trefoil	370	815	3.30	1.50	1,223,000
Bromegrass	40	88	4.40	2.00	176,000
Kentucky Bluegrass	55	121	2.86	1.30	157,000
Meadow Fescue	70	154	.99	.45	69,000
Single Cut Red Clover	325	716	.99	.45	322,000
Sweet Clover	2800	6167	.62	.28	1,727,000
Timothy	3300	7269	1.76	.80	5,815,000
Total	8860	19515			$14,093,000

Canadian Forage Seed Project

This project was established to multiply and distribute foundation seed of the older Canadian public varieties. In 1987/88, applications for foundation forage seed were up substantially from past years. This increase was in response to a strong forage seed market brought about by a strong export demand into the United States.

In total, 103 seed orders for Manitoba farmers were filled, involving 5,960 kilograms (13,112 lbs.) of foundation seed. This was a 37 per cent decrease from the volume of seed distributed a year earlier.

Horticulture

Horticultural staff continued to provide a wide range of extension services with much of the work carried out in close association with six commodity groups. Eight major field days, tours, seminars and conventions were carried out during the year, with the largest of these the Horticulture Industry Days that involved producers, the service industry and department staff. Other support was provided through the hort line advisory service, crop production meetings and tours in the regions, conferences and horticultural groups in the north, production of 16 newsletters and 27 radio and TV sessions, and the writing of the disease section of the Crops '88 homestudy course.

New Product and Crop Development

Development work continued to expand markets for strawberries, raspberries and saskatoons, and small scale trials continued with blueberries, Other development projects included culture and storage of garlic, witloof chicory production, and a study on the potential for production of vegetable and fruit products for processing. Work continued with 47 northern and remote communities to introduce and expand greater self sufficiency of food production. The greenhouse industry continued to expand during the year.

Investigation and Information Development

As part of the continuing investigations in the north, plots were established or maintained on effects of fertilizer on alfalfa, general forage production, vegetable production, potato production and perennial ornamental plant trials. Staff worked with the regions in an optimum crop management program on 22 fields evaluating fluid drilling of vegetable seeds, pest monitoring potential, effects of soil fumigation, plastic mulch and cultivar cultural management techniques on strawberries, as well as cultivar and pruning systems of raspberries.

During the year publications were produced on vegetables, potatoes, greenhouse and raspberry production, pest control, variety lists, judging standards, a revised home grounds judging system and disease control. Staff also assisted in the production of a number of fact sheets and video tape productions in support of the horticultural industry.

Marketing — Horticulture

Department marketing activities in this area continued to support the maintenance of existing markets and the expansion into new markets. Promotional work with the Fresh For Flavour Foundation and the Manitoba Vegetable Producers' Marketing Board involved the preparation and distribution of recipe pamphlets and vegetable availability charts, and a pamphlet outlining Manitoba's vegetable industry and the various products grown here. Marketing staff assisted straw-

berry, raspberry and vegetable growers by providing U-pick maps and informational brochures. The greenhouse and landscape industry was also provided with promotional materials. Promotions included participation in rural and urban shopping mall displays and agricultural exhibitions. A similar display, plus staffing, was provided for the Canadian Fruit and Vegetable Wholesalers Convention and Trade Show in Vancouver.

Service Activities

The plant pathology laboratory analyzed 8,770 samples, 3,242 from crop and ornamental plants and 5,528 related to Dutch Elm Disease. Surveys were conducted on canola for blackleg (increased incidence), cyst nematode in sugar beet soil (low level of infestation), molds in hay samples (several showed high levels of Penicillium species) and Vomitoxin content in wheat (some problem in the Red River Valley on Amber durum and semi-dwarf types).

Production of disease-free seed potato stocks continued through the Agri-Food contract with the Seed Potato Growers Association of Manitoba. The production of 150 cwt. of first generation and 1825 cwt. of second generation stock was sufficient to meet the requirements of the industry.

Staff participated in presenting material and organizing training courses to issue 33 and renew 211 tree pruners licences and 121 dealer applicators. Eight hundred attended these courses. Twenty-five commercial nurseries were inspected.

Through the Horticultural Societies Act, $18,225 was paid to 43 societies in support of the annual shows and $951 was paid in membership grants. Allocation and provision of expenses for judges for the flower shows and the Provincial Home Grounds competition was continued.

In 11 northern communities, 153 sites for gardens were tilled with the department tractor and rototiller. Fifteen hand guided tillers were provided to 17 communities for soil preparation of previously tilled garden areas.

Interagency Liaison

Staff was involved with numerous agencies and institutions, both public and private, to assure the coordinated development and efficiency of the horticulture industry. Issues of national and local nature were involved. Examples include the proposed national marketing agency for potatoes, bi-lateral and multi-lateral trade, grade regulations for fresh fruits and vegetables, pesticide registration, research and development priority identification and publication, concern over the definition of tax structures applicable to the greenhouse industry, grower/industry/institution relationships and work with grower associations.

Engineering Services — Crops

Weed Control — A program of testing sprayer nozzles continued with the results provided to staff, industry and farmers. Several nozzle flowmeters were also tested. The Field Sprayers booklet was revised and reprinted. Numerous enquiries on the selection and operation of sprayers were handled, field investigations were made on new sprayers, sprayer clinics were held throughout the province, and design assistance was provided to local sprayer manufacturers.

Equipment displays were organized for the 1988 Weed Fairs in Brandon and Winnipeg. An engineering booth was set up to distribute sprayer information and test results on sprayer components. Over 170 commercial pesticide applicators were trained and tested at three applicator courses in the spring of 1988. Several special meetings were held with sprayer parts suppliers, to update them on the latest department tests and recommendations.

Harvesting and Grain Drying — The microcomputer program to provide design and management assistance for unheated air drying systems was revised and distributed to the public, educational institutions and other departments of agriculture. Field tests were conducted to determine airflow patterns in bins with peaked grain surfaces. Tests were also conducted on airflows in large flat storages with aeration ducts. A number of public meetings were held on grain drying and harvesting procedures. A new standard plan for grain storage and drying systems was developed for the Canada Plan Service to be distributed nationally. Several individual grain storage systems were designed for Manitoba farmers. Major sections on grain seeding, harvesting and drying were prepared for the Crops '88 homestudy course.

Hay Drying, Storage and Feeding — Several hay drying tests were conducted to determine the feasibility of drying large round bales and rectangular bales with forced ambient air. Various hay storage methods were investigated to assess their suitability for reducing storage losses with large round bales. An investigation was also conducted to determine what improvements could be made to reduce feeding losses with large round bale feeders. Discussions were held and suggestions made to feeder manufacturers. A special front-end loader attachment was designed to enable more efficient stacking of rectangular bales in bale shelters.

Horticulture — Some 557 consultations and contacts with producers, industry, research and other extension staff resulted in engineering assistance being provided on building plan selection, analysis and specifications of construction details and specific problem situations. Detailed design assistance was provided for 61 special crop structures, covering areas of structural design, refrigeration, heating, ventilation and humidification.

A study on the performance of polyethylene ventilation ducts was initiated. Further analysis and work is required. Preliminary work was initiated on developing a forced air drying system to prevent the development of soft rot in early market red table potatoes. Damage caused by dirt eliminators on potato harvesters was surveyed. An analysis of the data was presented to local producers.

Other — Monitoring of diesel fuel storage tanks continued, primarily in the southwest region, to determine the existence of any contamination problems. A new guide for rental and custom rate charges for farm machinery was produced.

Consultations were held with numerous manufacturers, suppliers and farmers on a wide variety of machinery topics. A substantial number of special design services were provided for farmers, including V-belt and chain drives, hydraulic systems, structural members for home made equipment, machine alterations for handicapped farmers, loading equipment and others.

Weed Control

Weed control staff responded to more than 1,800 inquiries from farmers, chemical dealers and consumers. Staff also participated in 41 extension meetings attended by more than 2,000 farmers. Extension efforts focused on strategies for dealing with special weed problems, chemical safety, and developing herbicide application records as a basis for weed management decisions. Seventeen press releases, nine newspaper articles and 19 radio and TV interviews supported these activities. Over 20,000 copies of the Guide To Chemical Weed Control were distributed to farmers throughout the province.

The work of the weed specialists was supplemented and supported by an active and ongoing weed control program in every agricultural representative district in the province.

Weed Fairs

Two-day Weed Fairs at Brandon's Keystone Centre and the Winnipeg Convention Centre attracted a total attendance of 4600. Approximately 110 exhibitors provided information on the control of weeds and other pests, crop production, fertilizer use and advances in application equipment. The Western Canadian Flax Growers Association annual meeting was held in conjunction with the Winnipeg Weed Fair and for the first time the annual Outlook Conference was integrated into the Weed Fair program at both locations.

Pesticide and Fertilizers Control Act

Staff responded to 24 complaints relating to herbicide drift. Seven of these concerned applications by farm operators, two involved licenced right-of-way applicators and 15 related to licensed aerial applicators. Nine pesticide dealer and applicator training sessions emphasized the proper calibration of spray equipment, record keeping, herbicide selection and application methods. Staff continued to provide technical support to the aerial applicators self-insurance program which has provided significant premium reductions to aerial applicators within the province.

Weed Control Districts

Thirty-three weed control boards operated in 1987. Weed supervisors enforced the Noxious Weed Act, supervised municipal weed control programs and assisted farmers and homeowners by providing weed control information. Weed supervisors made 3,383 farm visits, identified 3,056 weed samples, calibrated 148 sprayers, and responded to more than 28,000 weed control inquiries. Weed supervisors also conducted more than 2,000 field and equipment inspections and served 373 weed control notices. Total weed district expenditures of $1,741,531 were supported by provincial weed district grants totalling $341,120.

Weed districts also provided an active pesticide container disposal service. Approximately 300,000 containers were delivered to designated collection sites. Pesticide residues collected from the containers were disposed of by the Department of Environment, Workplace Safety and Health.

Biological Control

Progress toward biological control of leafy spurge continued as the root feeding flea beetle Aphtona nigriscutus successfully overwintered at several new locations in the province. At the original release site, suppression of spurge is dramatic and the affected area continues to expand as the insect population increases. Populations were moved to several new locations to further enhance the spread of this control agent. Bio-control activities are conducted in cooperation with weed control districts, Agriculture Canada, North Dakota and Saskatchewan.

Soil and Water Management

Provincial Soil Testing Laboratory

During the 1987-88 fiscal year, the provincial soil testing laboratory processed some 29,700 samples, an increase of about 24 per cent over the previous year and the largest volume increase in the past four years.

Of the total volume, about 28,550 were soil samples and 1,150 were tissue samples.

The total revenue for the year was $171,450, up 29 per cent from the previous year. Just over $2,000 of this revenue was from the sale of soil probes, augers and soil thermometers.

The soil test report form was completely redesigned to make it more useful to the producer. Seven custom soil samplers were operating with five of these involved in Agri-Food projects. It was shown that a good operator can develop a profitable business providing this service.

Soil Fertility

Cooperative projects with the Soil Department, University of Manitoba and the Soil Testing Laboratory, are continuing to establish target yields for canola and flax. Some 15 demonstration/investigation plots were established throughout the province, in the continuing studies of mircronutrients and major elements on both mineral and organic soils. A new project was started on acid soils in the Dauphin area. The senior soil fertility specialist was a technical advisor to the Peatland Farmers Association.

Soil Management

Work is continuing on the nine tillage investigation/demonstration sites established in conjunction with the Agri-Food projects. An economic component (production costs and returns) has been added. Data for these plots is being computerized for analysis and evaluation at the end of the project.

A crop residue survey was implemented in conjunction with the Manitoba Crop Insurance Corporation. Various questions on tillage and crop residue have been added to the Crop Insurance questionnaire. This data will be collected at three year intervals and will provide valuable information on cultural practices that contribute to soil degradation.

Soil risk mapping has been completed and the maps are in final production stage. Digitization and computerization will follow, with maps and management recommendations then provided to field staff.

Drainage—Irrigation—Climate

Sixty-seven on-farm drainage surveys were conducted and ditch designs prepared for each project. Revenue from this service amounted to $3,900. Fourteen irrigation applications were processed. Irrigation rebates amounted to approximately $26,150. Interest in irrigation, other than for horiticultural producers and potato growers, has fallen off dramatically, most probably due to depressed commodity prices.

In cooperation with Atmospheric Environment Services, significant progress was made in developing a computer model which analyzes soil moisture relative to precipitation and crop growth. Manitoba Agriculture does the ground truthing for this project by analyzing soil moisture at several sites throughout the province.

Work is continuing in the development of the biological/climatological model to predict plant diseases and insect infestations that are weather dependent.

Technology Transfer and Conservation Education

Staff prepared and published close to 100 newsletters, radio reports and factsheets. The major focus was erosion control, soil moisture conservation and stubble burning. Staff also contributed to the Crops '88 homestudy course.

The section was actively involved in the National Soil Conservation Week program. Resource kits containing a wide variety of soil conservation information were provided to 700 Grade 7 geography classes in schools throughout the province. Kits were also provided to all agricultural representative offices and 160 Wildlife Federation Association locations.

Some 130,000 grocery bags and 40,000 placemats bearing a soil and water conservation message were distributed throughout the province. Several radio shows and T.V. appearances were made by staff in conjunction with the National Soil Conservation program, and assistance was provided for a shopping mall conservation display.

Land Utilization and Soil Survey

The objective of this program is to provide the basic soil resource information and assist in the department's input into land use planning for the reasonable and judicious use of Manitoba's agricultural land resource.

Soil Survey

The systematic inventory and evaluation of Manitoba soil resources is a continuing program supported jointly by Manitoba Agriculture and Agriculture Canada. The University of Manitoba, through the Department of Soil Science, provides office and laboratory space and administrative services related to special projects on behalf of soil survey. The major function of the soil survey continues to be provision of essential soil resource data and related research. Land evaluations on land use planning and land management are conducted for the public and government departments.

The 1987-88 soil survey inventory program concentrated primarily on detailed resurvey and land evalua-

tion of selected areas in Southern Manitoba. Approximately 103,500 ha (255,700 acres) were resurveyed at a detailed scale of 1:20,000 and 98,300 ha (242,900 acres) surveyed at a reconnaissance scale of 1:125,000. The surveys included agricultural resurveys for special crop production, soil management, and land use planning in the municipalities of North Norfolk, Swan River and Sifton (Oak Lake Study); for municipal planning and assessment in the municipality of Rhineland; and for forestry planning and management in the Duck Mountain Forest Reserve.

Detailed soil survey reports were published for the R.M. of Lorne; Shellmouth Reservoir; Swan River (town); Fraserwood, Inwood, and Komarno; South Assiniboine River Corridor; and Whitemouth Peatland.

The soil survey is involved in developing a data base for land evaluation through the ongoing program of detailed resurveys and through long term monitoring programs of soil temperature, soil moisture and climate relations. Soil survey data provides input for the development of various soil-climate based crop growth and yield models for quantitative agricultural land evaluation.

Land Use Planning

Section staff and regional land resource specialists represented agricultural interests in evaluating development affecting agricultural land, as well as subdivision and land use issues relating to the Planning Act and provincial land use policies. Assistance and advice were given to planning districts and municipalities in formulation of basic planning statements and development plans. Activities included presentations made at 11 Clean Environment Commission hearings on agricultural issues, as well as recommendations on stubble burning and peat burning; agricultural input into highway routings across prime farmlands; detailed examination and discussions on agricultural implications of the new Environment Act; routing studies on hydro transmission lines; agricultural concerns related to potash mine development; ongoing discussion with City of Winnipeg and City of Brandon consultants on sewage sludge; and agricultural input into formulation of draft water policies for Manitoba.

Land Planning and Development

Staff provide service to departmental and other government staff, relative to agricultural use of land resources, with emphasis on the crown land of central and northern Manitoba. This activity is carried out through a process involving the Provincial Land Use Committee and the Crown Land Classification Committee.

During the year, staff contributed to the development of a comprehensive soil management and conservation program for Manitoba, as part of a national plan. Further refinement saw the plan ready for implementation by year end.

Along with other development programs, a project on quantity crop yield by soil type and by management practice, is being carried out. An operational computer program has been written for the project and resulting data will be used in making on-farm crop management decisions and crop selection decisions.

As part of the northern development program, staff evaluate crops and agricultural practices proposed for northern areas. In addition, they support selected projects with potential for producing more food in the north and enhancing the quality of living in that portion of Manitoba.

Currently a small scale land development and soil management project is underway at Wabowden. Also, a multi-resource study on crown land in the Saint Lakes area involves forestry, agriculture, wildlife, and in a secondary way, recreation and fisheries.

Agricultural Crown Lands

Land Use

Agricultural Crown Lands utilize .71 million hectares (1.76 million acres) for livestock grazing, hay production and annual cropping. The branch actively participates in the Crown Land Classification Committee (CLCC) system, through which land use decisions are made and lands are processed for the Crown Land Sale Program and the Local Government District Exchange Program.

Through CLCC activities, 5.7 million hectares (14.1 million acres) of Crown land have been classified as to their use; 26 Crown Land Plans are currently under study and two have been submitted to the Provincial Land Use Committee for review and approval.

Since the inception of the Crown Land Sales Program, the CLCC has reviewed and approved the sale of 1,330 parcels or 76,525 hectares (189,017 acres) and disapproved 596 parcels or 29,154 hectares (72,011 acres).

There has been a steady decline in the number of parcels requested for sale in recent years, from a high of 795 in 1980 to 39 in 1987.

Local Government District Lands

In cases where local government districts prefer to see their agricultural lands administered by the Department of Agriculture, they are included in an Agricultural Agreement between the Department and the local government district. These lands are administered under the same conditions as apply to Crown lands and are eligible for all programs, including the Crown Land

Improvement Program. On December 31, 1987, there were 1,833 parcels of LGD land under agreement, measuring 116,900 hectares (289,000 acres).

Leasing and Permitting

The total number of forage lease dispositions decreased by 32 in 1987, and the total area under forage lease decreased by 3,450 hectares (8,524 acres).

In 1987, there were 64 in-family transfers of leases involving 254 parcels of land, compared to 56 in-family transfers in 1986, involving 271 parcels of land. There were also five unit transfers in 1987 involving 25 parcels of land, compared to seven unit trasfers in 1986, involving 38 parcels.

Voluntary surrenders were actioned on 99 leases comprising 236 parcels.

Purchase Of Improvements

When a lease expires or is terminated voluntarily, structures such as fences, shelters, forage stands, corrals and watering facilities are purchased by the Province from the lessee. The total of improvements purchased in 1987 were $81,553. Crown-owned improvements to the value of $45,971 were sold to lessees acquiring lands in 1987.

Carrying Capacity Of Grazing or Hay Lands

As of December 31, 1987, the total rated carrying capacity of all lands under forage lease was 655,070 animal unit months. In addition, lands under various annual permits had a combined rated carrying capacity of 63,160 animal unit months, for a total of 718,230.

Table 4

Leases and Permits — 1987

Type	Number	Hectare	Acre
Forage Leases	2,552	635,505	1,570,312
Casual Grazing Permits	91	4,919	12,155
Renewable Grazing Permits	168	6,283	15,524
Renewable Hay Permits	951	35,862	88,614
Casual Hay Permits	393	7,634	18,863
Cash Rental Agricultural Leases	221	20,031	49,495
Special Leases	9	572	1,414
Totals	4,385	710,806	1,756,377

During the year, 519 quarters were advertised for lease or permit. Of these, 148 quarters received one application only, and 132 quarters received no response. Multiple applications were received on 224 quarters and 15 quarters were withdrawn from allocation.

Agricultural Crown Lands Advisory Committee

A total of 71 allocation appeals involving 114 quarters were heard during 1987. The appeal hearings resulted in 54 (47.3 per cent) of the allocated quarters being upheld and 59 quarters (51.7 per cent) of the allocated quarters were changed.

Eleven appeals against cancellation/non-renewal of forage leases were heard by the Committee. The Committee recommended that cancellation proceedings on one forage lease be withdrawn; eight leases be cancelled/not renewed and that a partial withdrawal of cancellation proceedings on one appeal be made. One decision was deferred.

It is estimated that the actual carrying capacity is approximately 25 per cent greater than the ratings as determined by the branch. Therefore, Crown lands under hay and grazing dispositions support 897,800 animal unit months; or meet the annual forage requirements of 74,800 head of livestock.

Crown Land Improvement Program

In November, 1987, Departmental financing for new development was discontinued, but financing for completion of previously authorized and committed development will continue to March, 1991. Lessees requesting new development were authorized under the Lessee Financial Option introduced into the program in 1986. Payments or equivalent credits were made to lessees upon completion of each phase of land development.

In 1987, this program was made available to 44 new clients on 61 quarter sections, totalling $21,458 and 880 clients were carried over from previous years on

1,742 quarters totalling $209,996. In 1987, there were 250 hectares (619 acres) cleared; 1,188 hectares (2,035 acres) broken; and 2,654 hectares (6,556 acres) prepared for seeding, at a cost of $232,760. In addition, there were 135 hectares (334 acres) cleared; seven hectares (18 acres) broken; and three hectares (seven acres) of seed bed preparation completed under the Lessee Financial Option.

Co-operative and Community Pastures

To date, Shoal Lake Hay and Grazing Co-op Ltd., consisting of 1,722 hectares (4,255 acres) and the Ralph Connor Grazing Co-operative, which has 1,919 hectares (4,742 acres), are the only two pasture co-operatives in the Province.

There are 24 community pastures (PFRA administered), covering 177,152 hectares (437,743 acres) in Manitoba. Patrons are charged a user fee to recover the annual operation cost of the pastures. Rates for 1987 remained the same as for 1986.

Table 5
Community Pasture Statistics

Operating pastures	24	
Hectares (acres)	177,152	(437,743)
Carrying Capacity	40,450	
Patrons	962	
Cattle & Calves	52,396	
Horses & Colts	2,261	
Breeding Cows	20,600	
Losses	404	
Bulls (includes rental)	843	

The Municipal Grants Act, administered by the Federal Department of Public Works, has not been amended to date to include municipal land for payment of real property tax. Negotiations are still going on with the municipalities, Province and PFRA to resolve same. Four municipalities have given approval in principle to a trust transfer option, while others are reviewing and discussing.

Insect Control

Extension activities in entomology are carried out to make people more aware of safe, effective methods of pest management and the potential hazards which could result from the misuse of insecticides. Servicing enquiries from field staff, dealers, applicators and farmers requesting insect identifications and control information is the major activity during the growing season. Economic threshold guidelines and control recommendations were provided in various insect control bulletins. During the year, 24 issues of the Manitoba Insect Report were forwarded to approximately 1,200 persons advising on, or directly involved in, insect pest management. Field surveys were carried out on a regular basis during the growing season to provide early warning of potential infestation of crop pests.

Crop Insect Infestations

Grasshoppers — The sharp decline in grasshopper population that began in 1986 continued in 1987. Less than 4,000 ha (10,000 acres) were sprayed, in contrast to an estimated 15,000 ha (37,000 acres) in 1986, and little or no loss to crops from grasshopper damage was noted.

European Corn Borer — Close cooperation was maintained with Agriculture Canada personnel working on European corn borer under an ERDA project. Populations of corn borer were generally low, but in some cases approached the economic threshold level, and some spraying activity took place for control of this pest.

European Skipper — No economic infestation of European skipper was found in Manitoba in 1987. Several isolated, but very severe infestations had occurred in the Riverton - Arborg area in 1986.

Armyworms — Outbreak numbers of armyworms occurred in cereal crops in the Whitemouth - Elma area, and several thousand hectares of cropland were sprayed.

Other Insect Pests — Other pests such as flea beetles, cutworms, sunflower beetles, aphids, etc., occurred at low levels and required minimal or no control measures.

Field Surveys & Monitoring

Grasshoppers — Staff carried out a province-wide survey of adult grasshoppers in early August to gather data for a 1988 forecast.

The forecast indicates that there will be a continued, marked reduction in both area and severity of infestations in 1988. The forecast area of infestation covers only 27 per cent of the area infested in 1987. This represents the lowest level of infestation forecast since 1979. The area most affected by grasshoppers remains the southwestern part of the province.

Bertha Armyworm — A field survey was conducted in the Swan River area for Bertha armyworm in canola fields. Populations remain below economic levels, no damage to crops occurred, and no spraying activities were required for control of this pest.

Wheat Midge — A province-wide survey for wheat midge continued for the fourth consecutive year, in cooperation with agricultural representatives. Results indicate the midge to be at low levels throughout the province, with only a few fields at levels approaching the economic level. Monitoring for this potentially serious pest will continue.

Sunflower Midge — A total of 14 fields were surveyed in 1987 in the Red River Valley. There was a marked decrease in severity of infestations from 1986, with four fields having no midge damage and 10 showing light damage.

Hessian Fly — Surveys were carried out in the Red River Valley and Swan River Valley areas to compare levels of infestation with those found in 1986 when levels ranged from 3.4 to 9.4 per cent. The surveys showed that Hessian fly was present in all fields checked. However, levels ranged from 0.2 - 3.2 per cent. Loss in yield from such low levels would be minimal.

Field Research

Wheat Midge — Comparisons of different levels of midge damage indicate no yield differences in the survey samples. It appears the midge so far has had little impact on wheat yields in the province.

Aster Yellows Damage in Carrots and Celery — This was the second year of a cooperative project between the horticulture, plant pathology and entomology sections. Under this project, carrot and celery crops in the Portage area were monitored for leafhopper populations and aster yellows damage. The purpose was to develop a better management program by relating the leafhopper populations to the amount of loss due to aster yellows.

Armyworm Damage Assessment — Armyworm damage assessments were carried out in a field near Whitemouth. A portion of the field had inadvertently not been sprayed and this provided a suitable check to compare yields in sprayed and unsprayed parts of the field. There appeared to be 25 per cent increase in yield in the sprayed part. Populations in the unsprayed area averaged 170/m^2, greatly in excess of the recommended damage threshold of 10/m^2.

Banded Sunflower Moth Damage Assessment — This was the second year in which damage assessments were carried out on sunflower heads. Thirty heads were collected from a field near Rosebank. These heads were analyzed for sunflower moth damage. Damaged and undamaged seeds were counted and weighed. The amount of damaged seeds per head ranged from 4 - 29 per cent. Statistical analysis indicated that this represented a loss in yield nearly equivalent to the per cent of damaged seeds.

European Skipper — A project was initiated in the Arborg - Riverton area to establish the area of infestation and assess the economic impact of European skipper infestations on timothy crops. Field surveys showed that although skipper larvae were present in most timothy fields, numbers were below the 6 per square foot damage threshold established in eastern Canada. In addition, a virus disease, which has kept skipper populations in Ontario and Quebec under control, occurred in a high percentage of larvae in the fields surveyed. It was concluded that the incidence of disease would keep European skipper populations below economic levels in Manitoba.

Minor Use of Pesticides — No new submissions were made. The minor use for malathion on wild rice was approved. Initial application had been made in 1985. We continued to query the federal government on the fate of the carbofuran application on cole crops. This application was also made in 1985.

The Manitoba Minor Use Coordinating Committee was established late in the fiscal year. Committee members were from the chemical industry and grower organizations as well as Federal and Provincial Governments.

Municipal Grasshopper Control Assistance Policy — Under this program, municipalities were reimbursed the full price of insecticides applied for grasshopper control on public property. Due to the reduction in severity of the grasshopper problem, only two municipalities received rebates, totalling $7,390.

Pesticides Control

A total of 817 retail pesticide dealers and 493 commercial pesticide applicators were licensed in 1987 under the Pesticides and Fertilizers Control Act. New dealers and applicators qualified for their licences by attending training courses and successfully completing written examinations. Applicators are recalled to training courses every four years.

Dealer and Applicator Training — Three one-day training courses for pesticide dealers were held and attended by 48 dealers. One-day training courses were held for aerial applicators (11), ground applicators (25), right-of-way applicators (77), landscape pest control operators (174), golf course superintendents (28), and Dept. of Highways (104). A separate training program was held for 14 new veterinarians.

Dealers and applicators were provided with updated educational material on insect, weed, plant disease, vertebrate pest control and chemical safety.

Enforcement — Fifty-one unlicensed outlets were checked. Most were found to be out of business and the remainder complied with licensing.

There were a total of 47 chemical damage complaints related to commercial pesticide application. Com-

plaints continue to be monitored closely to ensure compliance with proper pesticide use guidelines.

An act amendment to include adjacent crops to be recorded by commercial applicators in their record of pesticide application was passed by Order-In-Council.

Cholinesterase Blood Tests — The Entomology Section, in cooperation with the Cadham Provincial Laboratory, again offered this service to pesticide dealers and applicators. Under the program cholinesterase, a blood component affected by organophosphate insecticides, is analyzed by personnel in the Cadham Lab.

There were 25 participants in the program. Many of these people were from the Department of Natural Resources Tree Nurseries. They worked with insecticides only occasionally, but felt it advisable to have baseline cholinesterase levels established.

Training and Development

Farm Management

The main objective of the Department's farm management section is to enhance the efficiency and growth of the farm sector by providing farm business management services, by developing resource materials and a training program and by extending timely information to staff and farmers.

Staff input was focused on the development and production of resource material for the Farm Business Group Program and for assisting staff in individual counselling. Three lessons were produced to strengthen the human resource component of the Farm Business Group Program. One provincial in-service training session was held to review existing material and to familiarize staff with the new content. Approximately 80 staff attended. Regional staff, mainly agricultural representatives and home economists, delivered the course to approximately 250 farm couples.

Five farm management software diskettes were developed and circulated to regional staff to assist them in counselling and advising farmers. Over 60 agricultural software programs are currently being used by staff in the farm management program.

Continued efforts were directed toward standardizing software programs to facilitate ease of use. While a software distribution policy was introduced a year ago, requests for agricultural software programs from the general public were minimal.

Twelve budget guideline worksheets for enterprise budgeting were developed and revised. Thirty-seven thousand copies were distributed to farmers, financial institutions and financial advisors. Several planning worksheets dealing with machinery purchase, land purchase and cash flow were produced and distributed to the general public.

Staff researched and/or prepared 46 written reports on the following topics: income tax implications, human resource instructional video, Agriculture Canada strategy direction, farm management initiatives, computerized accounting software programs, grassroot project proposal, Western Diversification Strategy, financial security instruments, sales tax legislation for horticulturists, quit claims and lease backs, Manitoba Mediation Board program options, management options under low price conditions, brief submitted by financial institutions, agricultural software program, interest overcharge and cost of production information.

Sixteen additional computer programs for staff use were developed on crop planning, livestock budgeting, capital budgeting for greenhouse production, residual debt servicing, case recording systems, pasture enterprise selection and a number of breakeven analysis programs.

A concentrated effort was devoted to the development of a total farm planning computer program. The specifications for the program were redesigned and properly documented to facilitate computerization. The second and third phases are to be completed within the next 18 months.

During the year, viability assessments were completed on eighteen immigration applications, a reduction from twenty submitted the previous year. The current economic climate appears to have dampened foreign interest.

Several publications were written or revised during the year, namely: "Sources of Credit for Manitoba Farmers," "Knowing Your Legal Rights," "Livestock Leases," "Security Investments," "Property Transfer," "Farm Business Arrangements," "Procedure For Security Search," "Calculating Summerfallow Costs," "Tax Reform Update" and "Computers - Is It For You?"

Farm management staff were involved in a number of regional, provincial and national organizations and committees associated with farm management concerns.

Regional Activities

Continued low grain and oilseed prices, lack of adequate rainfall and high debt loads, especially among the younger farmers, maintained the need for extensive financial counselling. Farm management staff reported between 80 and 85 per cent of their time was taken with this work, which included preparation of financial statements, income projections, historical analysis, meeting with creditors, checking security and preparing recommendations. In all regions considerable counselling was done in conjunction with the Manitoba Mediation Board, the Farm Debt Review Board, Federal Farm Credit Corporation, Manitoba Agricultural Credit Corporation or other financial institutions.

The Farm Business Group program continued to be a priority across the province, with several hundred farmers and farm couples completing the second year of the program and many more entering the first year. Participants increased their skills in goal setting, financial planning, marketing and general farm business planning. Instruction was carried out primarily by agricultural representatives and home economists, with support from the regional farm management specialists.

Other extensive training sessions were presented in each region, with a number of them on computers, marketing and farm accounting, carried out in cooperation with the Assiniboine Community College. Farm Family Seminars were highly successful in many districts as a method of providing information to farm couples on farm finance, credit management, rights and family

skills required for coping with difficult economic conditions.

4-H and Youth

The objective of the Manitoba 4-H program is to promote skill and leadership development of rural and northern youth and adults, through a rural community-based organization.

During the year the 4-H program involved 5,147 youth in 288 clubs, supported by 2,216 adult leaders.

The 4-H structure networks from the members at the grassroot level to a national organization called the Canadian 4-H Council. Within the province are 39 district 4-H councils, five regional councils and one provincial 4-H council. All are involved in planning, coordination and evaluation of 4-H projects and member participation.

Provincial Activities

The Winnipeg 4-H office is responsible for coordination of all provincial, national and international activities. The office also provides necessary support to district and regional staff, while supervising the northern 4-H program.

The Manitoba 4-H Council, with regional representation, coordinated activities on programs, public relations, 75th anniversary, sponsorship, travel and annual conferences. The 75th anniversary year was launched in November of 1987 in Roland, the birthplace of rural club work, when the 4-H History Book made its' debut. A series of anniversary events is planned for 1988.

The annual conference of the Manitoba 4-H Council saluted the 75th anniversary with the theme "Celebrate in '88". Over 80 4-H members, leaders and staff attended.

In 4-H award travel during the year, 111 4-H members and 42 leaders travelled through the assistance of over 40 corporate sponsors and over $18,000 in club donations.

Other provincial 4-H events offered to members included: horse shows, dairy shows, 4-H livestock judging, sugar beet achievement, clothing speaks conference, public speaking contests, provincial demonstration competition and the City Survival Weekend. In addition, there was a provincial highway clean-up campaign, a Japanese youth visit and three issues of the magazine Contact went to 6,300 recipients.

Manitoba 4-H ambassadors, involving 27 former 4-H'ers, continued to be very supportive in operating a number of provincial 4-H events.

The Manitoba 4-H Foundation, consisting of 14 directors, collected $19,450 in donations during the year. This group is sponsoring the 75th anniversary celebrations, which includes the 4-H History Book and the Provincial 4-H Happening.

4-H Projects

The Department supplied over 110,000 copies of project manuals, record books and resource material to a project enrollment of 5,658. Materials produced during the year covered projects in junior money management, clothing II, field crops and the beef record book. Development work continued on the 4-H computer enrollment program.

Staff Training

Updating of 4-H materials, policies and programs was accomplished through five regional 4-H days in which regional 4-H specialists and Winnipeg 4-H staff shared responsibilities. The 4-H specialists team met six times for strategy planning and evaluation.

Staff attending training sessions in team work, stress management, how to make presentations, essentials of management, new staff orientation, parents and teens, and mobilizing volunteers. In addition, at the national level, staff had representation on the Canadian 4-H Council.

Regional 4-H Activities

All five regions carried out their usual extensive program at the district and regional levels. Activities were varied and wide ranging for a membership that numbered about equal to last year's enrollment. Included in the general activities were sporting events, camps, rallies, member training, leader training, travel programs and the basic project work.

Communications programming continues to be a high priority in the Northwest region where 865 club members were active in 41 different clubs. Along with their usual full schedule of 4-H events, a number of the clubs in the region made specific plans to mark the 75th anniversary of club work in the coming year.

In the Southwest region almost 1,600 members belonged to 85 regional clubs, with nearly 700 adult volunteers involved. An important trend noted this year in the region was a reflection of the regional priority on financial management, leading to the involvement of 70 club members in a money management project. This number included two beef clubs which undertook the project in addition to the beef project.

The Central region's main goal was to develop the potential of youth and adults in the area of leadership, through the 4-H club program. Their full program this year was experienced by 1,250 members in 73 clubs, guided by over 500 adult volunteers. The Central region achieved the distinction this year of forming the first 4-H club ever organized on a Hutterite colony. Already other colonies are showing an interest.

In the Interlake region close to 400 members took part in all the usual 4-H club activities, placing some emphasis on communications, demonstrations and training of members and leaders. Regional staff developed a new project on junior money management which was adopted across the province. A large group of senior members gave a high rating to a conference that gave them an opportunity to explore the importance of agriculture in Manitoba.

More than 520 members belonged to 36 4-H clubs in the Eastern region, taking part in 18 different projects. Five of the clubs were new in the 1987/88 fiscal year. Emphasis has been placed on retaining 4-H members until they reach the senior level, increasing the number of agricultural oriented clubs, and assuring that leaders receive adaquate leadership training and personal development. More active participation on district and regional councils by senior club members was also encouraged.

Northern 4-H Program

The Northern 4-H program boasts a membership of 244, supported by 79 leaders in clubs located at York Landing, Thompson, The Pas, Cross Lake, Flin Flon, Sundance-Bird, Grand Rapids, Carrot Valley and Gillam.

In addition to their local project meetings, members participated in a variety of regional and provincial acitivities, including a garbage clean-up campaign, Camp Wannacumbac, travel to Wisconsin, regional public speaking and communications contest, provincial public speaking competition, 4-H careers conference, regional beef show and the 4-H provincial horse show. Northern leaders were involved in many of these activities, plus area and regional leaders meetings. They also were represented on the Manitoba 4-H Council.

Home Economics

Home economics programs are delivered by Manitoba Agriculture field home economists in 17 locations in rural Manitoba. The field work is supported by specialists in the home economics section in Winnipeg. Manitoba Agriculture home economists work closely with their counterparts in Manitoba Health, particularly in northern regions and in the cities of Winnipeg and Brandon.

The 1987/88 year was the first year of implementation of the home economics strategy developed the previous year. During the year the home economics program in rural Manitoba reached over 25,600 people, through group sessions and one-to-one contacts. Advisory groups and existing organizations provided identification of issues and concerns, and direction in program planning. In several districts a new approach to advisory groups was tried successfully using couples advisory groups rather than separate men's and women's groups.

The second annual Manitoba Farm Women's Conference, planned and coordinated in cooperation with the Portage Women's Organization, was held in Brandon in November, 1987 with 500 farm women in attendance. The evaluation showed this to be a most successful event.

Department home economists were extensively involved in developing study materials for the farm business group program. The were also involved in staff training, farm business and group training involving these materials.

The 4-H club program continued to receive substantial support from home economists through promotion, training of leaders and members, and support to ongoing programs such as 4-H conferences, achievement programs, rallies and council meetings.

The objective of the home economics program is to assist Manitoba families, particularly young families, in applying knowledge and skills to improve family life style and well-being through optimum use of physical and human resources. The three major areas of programming in support of this objective are family financial management, family living and well-being, and family resource management. A new position in the family living area saw increased emphasis on topics in family living and human resource management.

Financial Management — Counselling on financial matters was substantially increased during the year with this service provided to a variety of client, including pre-marriage couples, bankruptcy referrals, young couples requesting budget advice, vocational rehabilitation clients and crisis centre referrals. Group sessions, workshops and seminars were delivered to farm families, women's groups, native women, high school and elementary students and teachers, 4-H club members and leaders, institution workers, clergy and seniors.

The various group sessions on financial management focused on credit, insurance, benefits of family records, investments, pensions, women and finances, farm credit, income tax, buying for baby, kids and money, household budgeting and basic budgeting for teenagers.

Family Living and Well-Being — This area received increased support this year, partly in response to increased needs associated with farm families in financial crisis. Several staff were trained in presenting stress wellness workshops and a number of these programs were later presented to the farm public and to groups of department staff.

Many aspects of this area of concern were integrated into programs presented to farm business groups, farm family seminars and other rural group events. Areas covered included family communications, farm family relationships, time management, wills and estate planning, farm safety, going it alone (widowhood), stress management, the human implications of transferring the family farm and family law.

Clothing — Individuals and groups were assisted in this area by the provision of information and training in buymanship for wise clothing purchases, care and maintenance of garments to maximize wear life, decreasing clothing expenditures and updating on new sewing materials and techniques.

Staff determined that farm chemical contamination of clothing was a real hazard. This important topic was dealt with at a number of seminars where they highlighted the laundering of contaminated clothing and choosing protective clothing.

Housing — Programs in the housing area were focused on stretching the housing dollar. Sessions conducted with various groups included cutting utility costs, energy efficient furnishings, basic carpentry and simple home repairs. Buymanship of home furnishing was also provided in response to numerous requests for this kind of information.

Nutrition and Food — Emphasis in this area focused on young families through prenatal nutrition classes and provision of infant feeding information at child care clinics, postnatal classes, inservices and consultation with public health nurses. Nutrition information was provided to day cares, schools and group homes in the form of workshops, individual follow-up and menu assessment.

Community Development — Home economists supported various farm women's organizations by assisting with program planning, identifying resource people for program presentations and by making numerous presentations themselves at a wide range of rural events.

In an effort to provide the best possible counselling to clients, the home economists placed considerable emphasis on learning about programs of other agencies and getting to know the people involved in those acivities outside Manitoba Agriculture. This networking was a major focus through the year and proved to be most worthwhile. Three regions developed directories of services available to clients.

Media — The home economists made regular and effective use of the media to get their messages to a wide audience throughout Manitoba. They produced regular weekly columns in the community weekly newspapers, produced radio items and took part in the regular weekly television program Consumer Spotlight on Brandon and Portage TV stations. In addition, quarterly newsletters were directed to all farm families in three regions and staff were involved in providing production assistance on several video tapes during the year.

Agricultural Extension Centre

The Agricultural Extension Centre, located in Brandon, continued to coordinate adult education and extension training activities for many rural Manitobans. During the year a total of 710 events were held in that location, involving a total attendance of 23,500.

The Centre sponsored 19 courses during the year with 1,600 participants. A further 87 events of more than one day were sponsored by organizations other than the Extension Centre and involved 4,615 people. Additional events of one day or less numbered over 500.

The Extension Centre continued to provide dining room and residence services when required. This activity resulted in 20,000 meals being served.

Instructors for the Centre-sponsored courses were drawn from Manitoba Agriculture, Agriculture Canada, University of Manitoba and from the farm sector. To keep the course program current and relevant, feedback and evaluation was encouraged from participants.

The regular issue of "Ag Action" helped maintain interest and participation in Extension Centre events. In addition, the media showed a continuing interest in the many programs.

Rural and Human Development

Activities in this area ranged from research, consultation and investigation, to staff support on program delivery and some direct client support.

Staff support included guidance on counselling techniques for staff of the Manitoba Agricultural Credit Corporation, sessions on group dynamics and adult learning for all weed supervisors and stress management workshops for departmental staff. In addition, assistance was provided in preparing regional directories for networking purposes and in the production of three new lessons for the Farm Business Group program.

Two workshops were carried out for farm employers with presentations on motivation, communications, and wage and working conditions.

The Farm Stress Test Project (Agri-Food), involving production of a video and an accompanying workbook, was completed during the year and 7,000 copies of the workbook were distributed in the province.

Agricultural Employment

Canada and Manitoba, represented by the Department of Employment and Immigration Canada and Manitoba Agriculture, work together under an agreement called the Canada-Manitoba Agriculture Employment Agreement. This agreement establishes the Canada-Manitoba Agricultural Employment Committee which is given an overall responsibility to:

- assess agricultural employment and training needs and recommend suitable strategies.
- recommend on the establishment of Local Agricultural Employment Boards and to establish required operating guidelines and policies. Through these boards, the committee will evaluate the activities carried out by the Agricultural Employment Services offices.
- establish and publish wage, working, and living condition guidelines for agricultural workers that are to be applied to placements made through the Agricultural Employment Services offices.

The committee has further responsibilities to recommend on research projects related to farm labor; to provide advice and representation to the Canada-Manitoba Labor Market Needs Committee; and to provide advice, as appropriate, on the Canadian Rural Transition Program.

Agricultural Training

Assiniboine Community College again offered agricultural training throughout rural Manitoba in 1987/88, responding to producer requests through the local agricultural offices and the Agricultural Employment Services offices.

The College provided 11 complete courses at 79 different locations. There was a total enrollment of 1,199 students resulting in a total of 14,620 training days. The four most popular courses were computer training (4 levels), farm accounting (2 levels), farm equipment operation for women and grain marketing (3 levels).

Offshore Workers

In 1987, 32 Mexican workers were employed on three vegetable farms in the Portage area. The growers and the Manitoba Farm Workers Association agree on a joint recommendation to government as to how many offshore workers should come into Manitoba.

Portage Project - Continuing Programs

- The Portage Friendship Centre provided support services such as child care assistance, money management training, temporary accommodations and housing assistance and played an entermediary role in employer-employee discussions. The services were available to all farm workers in the Portage area.
- A limited daily transportation service, funded through Employment and Immigration Canada, brought workers to work on vegetable farms in the Portage area.
- The Portage and Headingly Correctional Institutions provided people, on an ad-hoc basis, for short term field or warehouse work.

Agricultural Exchange Program

The International Agricultural Exchange Association (I.A.E.A.) had 44 trainees on Manitoba farms in 1987. Shortly after their April arrival in Canada, they attended a five-day orientation seminar to become familiar with Canadian agricultural practices, customs and laws. The trainees then proceeded to their host family farms to live as a family member and to work as an employee/trainee. They took a three to four week vacation in mid-summer for North American travel.

In 1987, 32 Manitobans left on I.A.E.A. exchanges to Europe, Australia and New Zealand.

Agricultural Societies

In 1987, there were 63 active agricultural societies in Manitoba. Each society undertakes to put on a summer fair event offering competition and prize money for displays of livestock, horticulture, home living skills and the arts. Often societies sponsor 4-H achievements and rallies as part of their events. Over the years, these organizations have contributed greatly to the successful development of rural communities.

In the wake of the farm stress situation, several agricultural societies have been co-sponsoring educational workshops with the assistance of Manitoba Agriculture staff. Seminars in most regions of Manitoba have been held and well received by rural citizens. Often these educational events are assisted by local service clubs, municipal government and the business community, demonstrating a strong association of local support groups.

In addition to staff support, Manitoba Agriculture assists agricultural societies through grants. Grants for 1987 included; buildings and improvements $140,000; prize money $236,000; membership $7,600; 4-H activities $14,200; judges' expenses $50,000.

The newly formed Manitoba Association of Agricultural Societies (MAAS) held its first annual conference in Brandon with 180 delegates attending. The future of

agricultural societies is looking bright under the new leadership of the MAAS organization. MAAS membership in the Canadian Association of Exhibitions has resulted in closer relations with the Federal Government, midway and concession services, as well as the insurance industry.

Doris Warnica from Miami, Manitoba was the 1987 winner of the Canada Packers/Manitoba Agriculture quilting competition.

Manitoba Agricultural Hall of Fame

The Manitoba Agricultural Hall of Fame, established in 1976, formally and publicly recognizes individuals who have made outstanding contributions to the betterment of agriculture and rural living in Manitoba. Manitoba Agriculture assists in the financing of the Hall by providing an annual grant of $12,400, paid on a matching two-for-one-formula. The Hall of Fame is located in the Agricultural Extension Centre in Brandon.

Keystone Centre - Brandon

The Keystone Agricultural and Recreational Centre in Brandon, serves the agricultural, recreational and entertainment needs of Brandon and surrounding districts. Under the Keystone Agreement, the Province of Manitoba and the City of Brandon share in any operating deficit. In 1987, the provincial grant was $50,000.

Manitoba Women's Institute

The Manitoba Women's Institute involved a membership of 1,426 members in 1987, located in 91 local institutes throughout the province. The Women's Institutes provided valuable family and community educational and social programs to their membership. The board works closely with the home economics section and in the field with district home economists, providing leadership and social support in many areas of general need and concern.

Manitoba Agriculture's annual grant to the Manitoba Women's Institute in 1987 was $31,900.

Manitoba Farm Vacations' Association

Organized in 1972, this association, through its 61 host families offers prospective vacationers an opportunity to enjoy first hand, rural mid-western hospitality.

Host farmers offer a wide selection of what farming is all about, ranging from large cattle ranches or major dairy operations, to grain and mixed farms of all sizes. Involved farm families supplement farm income in a small way and enjoy the social interaction.

During 1987, the 61 host families in Manitoba hosted over eight thousand overnight stays. School tours numbered 306 with over 22,000 students visiting host farms. During 1987, the Farm Vacations' Association received a provincial grant of $23,700.

Century Family Farm Program

The Century Family Farm Program was established in 1981 by the Department of Agriculture. Any family currently operating and residing on a farm which has been operated and occupied continuously by the family for one hundred years or more, can apply for, and on proof of information receive, a gate sign and certificates recognizing their accomplishment. To date a total of 572 families have been acknowledged through this program. In 1987, 29 presentations were made to Century Family Farms.